THE RHODES-LIVINGSTONE JOURNAL NUMBER EIGHTEEN

HUMAN PROBLEMS IN BRITISH CENTRAL AFRICA

XVIII

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HUMAN PROBLEMS IN BRITISH CENTRAL AFRICA

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Inquiries and subscriptions should be addressed to:

The Managing Editor,
African Studies,
University of the Witwatersrand,
Milner Park,
Johannesburg, South Africa.

Contributors to this Issue

L. H. Gann, at present in the Central African Archives, Salisbury, Southern Rhodesia. Formerly Research Officer (historian) at the Rhodes-Livingstone Institute and Research Assistant, Manchester University.

E. L. B. & V. W. Turner. Mr. V. W. Turner, Research Officer of the Rhodes-Livingstone Institute, with his wife spent three years among the Ndembu in the Mwinilunga District of Northern Rhodesia. They are at present at Manchester University preparing a report of their findings, where Mr. Turner is a Research Assistant in the Department of Social Anthropology.

Mrs. T. S. Trent, Diploma in Economics and Political Science (Oxford), B.A.Econ. (Manchester), was a Research Student in the Faculty of Economic and Social Studies at Manchester University from 1953–4. She was then appointed Research Assistant to study village economics in Mysore, India, under a Rockefeller Foundation Grant.

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Editors
J. CLYDE MITCHELL
ELIZABETH COLSON and MAX GLUCKMAN

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THE NORTHERN RHODESIAN COPPER INDUSTRY AND THE WORLD OF COPPER: 1923–1952*

by
L. H. GANN

COPPER was perhaps the earliest metal employed in the history of mankind. The metal is widely distributed over the surface of the earth. It is soft, easily fashioned and yet it is resistant to corrosion and can be hardened by the admixture of many other metals. Besides, it is not difficult to reduce the metal from its ore minerals. Copper thus formed the basis of the early bronze age civilizations in the Near East. Copper was also smelted in Central Africa by African smiths. Africans used iron for their tools, but copper was particularly important for ornaments, and as a means of exchange.

In Europe the copper industry received a considerable impetus with the invention of gunpowder and the introduction of bronze guns. Copper was also used extensively in the form of wire for wool-cards and thus took an important part in the expansion of the English cloth industry in the sixteenth century. In the second half of the eighteenth century industrial development took a further leap forwards. Steam power replaced wind- and water-power, and copper was once again indispensable to the industrialist. Copper was worked into brass cylinders for pumps and engines; it was used for plumbing and sanitation in the new industrial towns; it was manufactured into a variety of different articles. By the end of the eighteenth century Great Britain was the largest producer of copper in the world, supplying about 75 per cent of world production.[1]

In the nineteenth century further new uses were discovered for the red metal. Copper has a very high degree of thermal and electrical conductivity, and it therefore came to be intimately connected with the electrical industry which began in the last century. First of all builders used it for lightning conductors. Then from 1837 onwards when the telegraph came into commercial use, copper

* This paper was written whilst I was employed on the staff of Manchester University as Research Assistant in the Faculty of Economic and Social Studies. Its object is to give a general historical background to students interested in the various problems raised by the industrialization of Northern Rhodesia. In the main I have only been able to use material readily available in England. I am indebted to Professor Devons, Professor Gluckman, Dr. Henderson and Professor Lewis of this University, as well as to Mr. K. Bradley of the Imperial Institute, and Miss Deane, Cambridge, who have kindly read my paper before publication.

was fashioned into conductors and wires. Then the pace quickened. In 1850 the first copper cable linked Britain and France, and fifteen years later the first satisfactory cable spanned the Atlantic. Finally electrical machines came into production and for all these copper became an indispensable raw material.[2]

As the demand for copper increased, the English supplies for ' the workshop of the world ', Great Britain, became insufficient. In addition other countries began to industrialize themselves. Overseas resources came in demand and from about 1820 Chile became a great producer of copper. Then the vast mineral wealth of the U.S.A. came to be exploited. By 1913 the U.S.A. produced 55,400 metric tons out of a world total of 990,000 tons.[3]

One single American combine, the Amalgamated Copper Company, had come to control 40 per cent of the world's output.[4]

The last two decades of the nineteenth century saw the opening up of vast new sources of raw material in the world. The Western European powers, and especially Britain, started on a period of great economic and political expansion in search of new markets and raw materials for their growing industries. British investors in particular became more interested in investing money outside Europe, as European countries like France and Germany which formerly had borrowed money from London, built up their own industries, repaid their debts, and began themselves to export capital. Great Britain, with her highly developed banking system and her trading connexions with most parts of the world, was in a strong position to become the banker of the underdeveloped world. Her investors became willing to risk their capital overseas, hoping that in regions where capital was still scarce and labour cheap, they would secure higher rates of interest than at home.[5]

South Africa was one of the regions to which British capital began to flow after the great diamond and gold discoveries which had been made between 1867 and 1886. Political and strategic, as well as economic, considerations led to further expansion of British power inland. The British South Africa Company, which was closely linked financially to the diamond and gold industry of South Africa, received a Charter from the British Government which allowed it to bring first Southern, and later Northern, Rhodesia under its administration. The Company acquired the mineral rights in these Territories, hoping to recoup itself for its expenditure on the administration of these Territories by taking a share in the profits of new mining ventures there. In addition the Company acquired the land rights of Southern as well as over much of Northern Rhodesia.

The Company's administration was responsible for putting an end to intertribal raids and the slave trade in its territories, thus safeguarding their labour supplies. It was successful in policing the region adequately and thus made it possible for capital to be invested safely. Finally, by imposing taxation it provided a power-

ful incentive for the African tribesmen to work for wages. At much the same time the Belgians similarly brought the Congo under their administration,[6] and economic development could proceed without hindrance.

Northern Rhodesia and the Congo were known to be of great potential value. The discoveries of explorers such as Livingstone, Burton and Reichard, had shown that there must be resources of copper in some parts of the area, and by the nineties this knowledge became of great interest to investors. The decade witnessed a rapid rise in the demand for copper, for in many parts of the world electric was replacing gas lighting, horse-drawn trams were giving way to electric trams, and so on. All these new developments required copper. This demand added to the price manipulations of the Amalgamated Copper Company and produced a boom which reached its height in 1899.[7] The rise in prices made further prospecting worth while and at the end of the century a number of expeditions were sent out to discover further copper resources. These led to the opening up of the great copper deposits of the Belgian Congo in which British capital played an important part. Production in the Congo rose from a mere 998 tons in 1911 to 85,570 tons in 1924.[8]

Development work on the other side of the border in Northern Rhodesia, on the other hand, proceeded very slowly. A number of discoveries of copper were made in the so-called ' Hook of the Kafue ' between 1895 and 1899,[9] and the Northern Rhodesia Copper Company, which was linked financially to the British South Africa Company, engaged in some development work. In 1899 an expedition financed by the Tanganyika Concessions Ltd. discovered Kansanshi, but the Company decided to concentrate its main efforts on the oxidized ores of the Congo, in which it was also financially interested. The less valuable Northern Rhodesia deposits were therefore left to one of its subsidiary companies.[10] Shortly afterwards the great deposits of the present-day Copper Belt were discovered almost by accident. Moffat Thompson, a government officer on tour, discovered Nkana in 1910 and sold his claim to a transport rider for a mere £100.[11] Collier, a prospector, also discovered Roan and Bwana Mkubwa at much the same time.[12]

As in much of South Africa, the mineral deposits determined the construction of the railway. The British South Africa Company which had already linked Southern Rhodesia to the South African railway system, extended the line north of the Zambezi. Between 1904 and 1909 a railway was constructed through North-Western Rhodesia to the Congo mines. The railway avoided the copper deposits in the ' Hook of the Kafue ' in favour of the lead and zinc deposits at Broken Hill, which were thought to be capable of immediate exploitation.[13] However, the railway touched Bwana Mkubwa, and through it the rich deposits of the Congo acquired a convenient outlet.[14] The construction of the railway made it

possible to import heavy machinery, to utilize the coal from Wankie and to export the heavy ores. At the same time it provided a great saving of labour, as carriers were no longer required. The railway thus facilitated further economic expansion.

The early workings were of oxidized ores. Whilst the Congo ores averaged as much as 15 per cent, the Northern Rhodesia ores mostly possessed only 3 to 5 per cent of copper. The mines in the ' Hook of the Kafue ' were richer, but foul air and water seeping in through the limestone formation made exploitation difficult, and they were not linked with the railway by a branch line. Generally the investors underestimated the amount of money needed to make satisfactory profits later on, a mistake that was widely made during the course of the opening of new territories. Firms with quite inadequate financial resources acquired vast concessions which they were quite incapable of exploiting satisfactorily. The British South Africa Company, as owner of the mining rights and as governing power, failed to insist on adequate working clauses in its concessions,[15] and itself did nothing to exploit the vast mineral wealth which it claimed.

From about 1923 onwards, however, all this changed. In 1923 the world demand for copper revived after the post-war depression. The American trade, one of the most important factors in the prosperity of the industry, recovered, and the scrap supplies dating from the war were absorbed by the new demand.[16] In addition the copper industry found important new customers in the electrical and automobile industries that developed after the war. All over the world copper production expanded, and between 1913 and 1929 the world's smelter production doubled.

In 1923 the British South Africa Company relinquished its administrative obligations over the two Rhodesias, and embarked on a new economic policy. Instead of giving concessions to small concerns, the Company began to make over large areas to powerful companies which were bound to maintain a minimal annual expenditure. The first of these, the Rhodesia Congo Concession Ltd., which later became a part of the Rhokana Corporation, was formed in 1923 with an authorized capital of £150,000,[17] a considerable sum by previous Northern Rhodesia standards. The Company owed its existence to the co-operation between Sir E. Davis, who had possessed previous interests in the Bwana Mkubwa Company, and Chester Beatty, an American mining engineer and financier [18] who was one of the first to sense the immense possibilities of the Rhodesian deposits. The new Company co-operated with the Anglo-American Corporation of South Africa which became their consulting engineers and established close financial links with the new concern.[19] Another powerful Company, the ' Selection Trust ', in which a great deal of American capital was invested, also took an active part in prospecting. Chester Beatty was also responsible for its work. He was convinced that there was a zone of easily

treated sulphide ore below the zone of oxidized ore which would make the Copper Belt.

The new concerns then began to prospect in earnest. Roads and aerodromes were built, a vast aerial survey was made, and drilling was begun in many different places.[20] A large staff of geologists [21] was employed by the new firms and worked over vast areas systematically in the largest prospecting operation yet attempted in Africa.[22] It became clear that the deposits of the Copper Belt were of enormous value, for unlike those of the Congo they entered a sulphide zone at a depth of about 100 feet below the ground, deposits which could be easily treated and were profitable, though their copper content did not exceed 5 per cent. The whole outlook for the Territory changed. In 1929 *The Economist*, which had regarded the original prospecting as speculative, rightly came to the conclusion that Northern Rhodesia was destined to become one of the principal suppliers of copper in the world.[23]

Capital was therefore not slow in entering the industry. Most of the original investors in the early Rhodesian Copper industry had been British. In addition, South African, and especially American, capital entered the country. The American investors, who thus expanded into a formerly British preserve, could command the services of Americans with wide experience of the technical and financial processes involved in the working of copper in their own country. As a result of various financial arrangements two powerful, partially interconnected combines came to control the industry. One of them centred on the Rhodesia Anglo-American Corporation which controlled Nkana, Nchanga and Bwana Mkubwa mines ; it was predominantly British and South African. The other rested on the Selection Trust, where American influence was strong ; it controlled Roan Antelope and Mufulira mines. These companies were able to draw on very large numbers of investors for financial support and were able to mobilize vast funds from many different areas, unlike the small concerns in the earlier stage of the Northern Rhodesian copper business.[24] In 1933 one Company alone, the Rhokana Corporation, could claim that it had spent no less than £5,250,000 on plant, machinery and equipment in two years.[25]

From the point of view of the companies the amalgamations of smaller units into large combines brought additional financial advantages. It made the control of output easier in the face of overproduction and it put the Northern Rhodesia market into a stronger position in getting a share in the world market. A large combination could deal more advantageously with the Government, could save money on administrative expenses, and could more easily obtain loans from great bankers.[26] The age of the giant enterprise had begun in Northern Rhodesia.

The new combines went quickly ahead with the work of development. By 1929 the Copper Belt was in the middle of a construction boom. Shafts were being sunk, houses for European and African

employees built, railway lines put down. The labour force rapidly expanded from some 8,000 in 1927 to almost three times that number in 1930. At the same time the town of Ndola developed as a marketing and distributing centre for the Copper Belt.

The Rhodesian Copper boom was only part of a world-wide expansion of the industry. As I have already pointed out, the demand for copper rose rapidly with the rise of the electrical industries after the war. In addition an important motor-car industry came into being in America, and between 1919 and 1926 the demand for copper from American motor-car manufacturers rose quickly.[27] As a result miners opened up new copper deposits. Technicians invented new processes of refining copper which enabled the Americans to develop their vast low-grade deposits. More and more scrap copper came into use.

This boom, as in Rhodesia, was accompanied by a world-wide movement of financial consolidation. Two American companies, Kennecott and Anaconda, came to control most of the American industry and acquired the vast majority of South American deposits. By 1927 they had control of 40 per cent of the world's production. The United States had consolidated its position as the world's leading copper power. Out of a world production of 1,937,000 metric tons in 1929 they accounted for 905,000 tons or about 48 per cent. Chile made only a poor second with 16 per cent, whilst the whole of Africa only produced 8 per cent.[28] The big American copper companies therefore found no difficulties in controlling the market. When copper prices began to decline because of the expansion of the world's capacity, they formed a vast combine, 'Copper Exporters Inc.', in 1926. This organization dominated about 90 per cent of the world's capacity: the American concerns, their South American subsidiaries, many European and Canadian concerns, and the mines of the Belgian Congo. Copper Exporters Inc. then restricted supplies and steadily forced the price of copper up[29]; it shot up from 12½ cents in June 1927 to 24 cents per lb. in April 1929.

But the policy of restricting supplies encouraged the expansion of supplies elsewhere. The same thing happened in the case of other raw materials, such as rubber, the production of which was restricted by producers between the two World Wars.[30] The expansion of supplies meant that restriction schemes broke down. Thus the copper companies of Northern Rhodesia took courage when world prices were so high, and like other cheap producers such as the Canadian and the Congo mines, expanded their production, and poured their surpluses into the U.S.A. The users of copper, on the other hand, became unable to pay the high prices and started experimenting with substitutes, such as aluminium. As a result huge stocks accumulated in the U.S.A., and prices slumped down to 6¼ cents per lb. in November 1931. This depression in copper merged with the world slump and, by 1932, 95 per cent

of the world's copper companies were working at a loss.[31] The Northern Rhodesia Copper Companies did not weather the storm badly compared with other producers, but the industry suffered a severe setback. Bwana Mkubwa mine had to be shut down permanently in 1931 and other mines were closed temporarily. Production had to be concentrated on the Roan Antelope and Nkana Mines. This was accompanied by a severe fall in the population of the Copper Belt from 3,600 Europeans and 32,000 Africans in November 1930 to 1,200 Europeans and 9,300 Africans in June 1933. Nevertheless the Rhokana Corporation was still able to make a profit, even in the disastrous year of 1933, and managed to pay most of its debts. In addition, it used its technical resources with such ability that it even managed to cut its costs from £31 5*s*. per ton in the first half of the year to £26 6*s*. in the second half.[32]

Many different factors contributed towards this. Native labour costs were low. *The Economist* argued that at one time before the Second World War the wages of all the Africans employed on the mines were only equal to the value of the royalties paid to the British South Africa Company. The companies did not have to deal with the claims of organized trade unionists. They did not have to carry the burdens of unemployment pay, as the out-of-work African miners returned to their villages, where they worked the tribal lands, and where the old and infirm were maintained by the tribe. Many Europeans, on the other hand, emigrated from the Territory altogether. The companies engaged in judicious share-dealings. Lastly the sulphide resources of the country were easy to work and the mines offered many technical advantages to the engineer.[33]

The Rhodesian industry therefore had little incentive to take a vital part in international restriction schemes. It was indeed represented at an International Conference in 1932 where a temporary agreement on the restriction of output was reached.[34] This agreement, however, was of little use to the Rhodesians, as it helped to keep the high-cost American producers alive artificially by giving them a favourable quota, and did not eliminate the inefficient producers. In any case the agreement did not serve its object. Prices fell further and later in the year the United States cut themselves off from the world market by imposing a very heavy duty of 4 cents per lb. on copper imports.[35] The British Empire followed suit, imposing in its turn a duty on non-Empire copper at the Ottawa Conference, together with duties on many other raw materials.[36] Copper Exporters Inc. thus collapsed. A last attempt at international co-operation between the copper producers came to naught owing to the insistence that Roan Antelope Mine be allotted a higher quota consistent with its extended capacity.[37] The Rhodesian mines had become independent of American policy.

The copper mines emerged from the depression as low-cost producers, and they found an assured customer in the United

Kingdom. Between 1930 and 1938 the copper intake of Britain doubled and its consumption of copper per head of the population rose to a level greater than that attained by any other industrial country.[38] Probably a number of factors contributed towards this result. The degree of recovery achieved in the United Kingdom after the world crisis was perhaps greater in many industries than the recovery of America. Germany deliberately kept down its imports because of Hitler's policy of self-sufficiency, and she substituted aluminium for copper where she could. Soviet Russia, which trebled its copper consumption in the same period, was able to supply all her needs at home. Britain, however, possessed no copper resources. Yet she required more and more of the metal to supply her rapidly expanding electrical and automobile industries.[39] In addition from about 1937 onwards, rearmament gave a further impetus to the copper industry, as the international situation worsened. Rhodesia had found a safe market.

The Northern Rhodesia copper companies made intelligent use of their opportunities. They did not repeat the mistakes of the Americans. Though they temporarily entered an output restriction agreement in 1936, its terms were of a very moderate kind.[40] They did not attempt to drive up prices unduly and thus discourage their consumers or encourage the use of substitutes. Even from the point of view of gaining immediate advantages, they had no incentive to do so. They were low-cost producers. So it may well be that they got better results from increased production than from temporary boom prices, which only meant stiff competition from high-cost producers.[41]

The Northern Rhodesia industry thus saw a spectacular expansion in the thirties. Roan, Mufulira and Nkana became important producers. Nchanga began development work with a pilot scheme. In addition to mining copper, Northern Rhodesia also began to refine the metal. Thus by 1937 the copper companies at last were earning very substantial profits after the long period of expansion. For instance Rhokana's earnings alone jumped up from £831,221 to £2,175,057 in a year.[42] A year later *The Economist* was able to state that the development programme both of Rhokana and Mufulira, two companies of vast size, would be completed in the current year. The limiting factor no longer was the difficulty in finding customers. Further expansion was likely to meet rather with difficulties in securing enough labour.[43]

In consequence of this development the entire ' balance of power ' in the world of copper shifted. Between 1928 to 1929 the United States had accounted for a total of 855,000 metric tons of a world production of 1,810,000 tons. Northern Rhodesia then produced only 5,000 tons per annum. In 1937, however, the American share of the world's copper production had declined to 750,000 tons of a world production of 2,240,000 tons. Northern Rhodesia was now turning out 210,000 tons per annum and the country had

jumped up to fourth place amongst the world's copper producers.[44] In the world of copper she had become a 'great power'. Rhodesian copper had come into prominence in time to play a vital part in the second World War.

The first of the Great Wars had been fought with steam-power. Steam engines transported the millions of troops that were mobilized against one another. Steam-power in the main propelled the navies that fought for the command of the world's trade routes. The second World War, on the other hand, became far more a war of internal combustion engines and of highly specialized equipment. In such a conflict copper became even more important than it had been before. Almost half the copper production still went into shells and cartridges, but already the bulk of the remainder was fashioned into electrical equipment and mechanical parts capable of resisting corrosion. The enormous demand made on copper may be illustrated by a few examples. In 1942, for instance, experts calculated that the copper wiring installed in a single bomber would extend over two miles if stretched out on the ground in a single thread, and a battleship used as much as 2,000,000 lb. of copper.[45]

The Allies controlled most of the world's copper.[46] This gave them a great advantage over their opponents. Nevertheless the demand from their war industries grew so insatiable that even these resources failed to satisfy them. Supplies became short and therefore had to be rationed. In Great Britain a Ministry of Supply was set up in July 1939, and many important materials such as copper were excluded from the sphere of private purchasers.[47] In controlling important non-ferrous metals the Ministry took over the personnel and organization of the British Metal Corporation, a British cartel with direct Government representation which had acted as a purchasing organization for consumers in the United Kingdom since 1918.[48]

From October 1939 onwards the Ministry acquired all its supplies by bulk agreements with Canadian and Northern Rhodesian producers. Two years later the American Government followed suit, and the free working of the market disappeared.[49]

Prices were thus no longer determined either by free bargaining or by agreements between the big companies themselves, but by compacts between Government departments and powerful concerns working in close co-operation. But the big companies did not fare badly under the new regime. It is true they were no longer able to drive up prices to the levels attained in the first World War, and in addition they had to pay Excess Profits Tax, whilst their dividends fell. On the other hand they had acquired a secure market and safe prices, and the Government aided their expansion. Soon after the outbreak of the war prices were considerably raised for them [50] and in 1942 *The Economist* considered that the copper producers operated at a cost not much higher than half of the prices

they received. The companies were thus able to expand their production further during the early part of the war.

In 1942 the Rhodesian output reached its war-time peak when it amounted to 250,000 tons out of an estimated total of 2,295,000 tons in the world. This constituted a fair advance over the production of 1939, when Rhodesian industry had been responsible for 213,000 tons out of a world total of 2,130,000 tons,[51] at a time when it had already found plenty of customers for its product but when it had not yet encountered the difficulties besetting it in war-time.

The British Government gladly supported the Rhodesian expansion programme, for it was not till the second half of 1943 that the supply of copper for the Allies was considered roughly equal to their consumption.[52] Besides, in the latter half of the year Britain had to resume cash payment for a number of American materials. Raw copper and zinc were made ineligible for 'Lend-Lease' supplies, and scrutiny of applications for 'Lend-Lease' were intensified at the end of the war when the Americans became worried about their export prospects in the post-war period.[53] In 1943, for instance, the Ministry of Supply therefore advanced the sum of £750,000, half the cost of the big development programme planned for the Nchanga Mine, whilst private subscribers accounted for the remainder.

As a result the importance of the Copper Belt increased further. The working populations of the mines rose further. In 1939 there had been about 2,000 Europeans and 20,000 Africans, but in 1944 the figures had already risen to 3,000 and 30,000 respectively.[54] The region was safe from enemy action and its resources were still largely untapped. Its development constituted part of a world-wide process in which backward regions were being industrialized, partly under the impact of the war, no matter whether in the Southern States of the U.S.A., in the Asiatic Republics of the U.S.S.R. or in the German-dominated peasant lands of South-Eastern Europe.

Northern Rhodesia thus emerged from the war with an increased working population in the mines and with her copper-producing capacity further increased. She had, however, ceased to be a low-cost producer relative to other producers. The Roan Antelope Company calculated that its costs per long ton f.o.b. at the port of Beira had increased from £22 15*s.* to £39 5*s.* 3*d.* between the years 1937–8 and 1944–5.[55]

A number of different factors probably contributed to bring this about. First of all Rhodesia as a whole saw considerable economic development both during and after the war. Industries became more diversified and the entire population increased. This placed a heavy strain on the railway system which did not expand commensurately. Industrial development also brought many new customers to the Wankie Coal Mines in Southern Rhodesia. These

constituted the only coal deposits in the region and fuel became more and more difficult to obtain. At the same time a heavy strain was being placed on the industrialized countries overseas which supplied the machinery for the mines, but which were also busy with reconstruction in Europe. Deliveries thus became uncertain and prices rose.

In addition labour became dearer. The European workers, who first began trade union activity in 1936, found themselves in a strong bargaining position owing to the manpower shortage brought about by the war. At the same time they were able to prevent 'dilution' of skilled labour by African labourers who would have been prepared to perform the same tasks for lower wages and thus to cheapen costs. In addition African labour also found itself in a better bargaining position. The supply of new workers from the reserves was not unlimited. Workers stayed in employment for ever-lengthening periods and became used to industrial conditions. They saw before them the demands of the organized European workers and therefore grew themselves more insistent in their demands. By 1945 the Europeans had therefore managed to secure a rise of 30 per cent of their wages beyond the 1939 level, and the African an advance of 25 per cent.[56]

In addition new technical problems had come into existence. During the war the Companies were solely interested in raising their output as quickly as they possibly could. They therefore worked high-grade ores in easily accessible areas and restricted development work to selected spots. The favourably placed resources, however, gradually became exhausted. Mining had to be carried on at greater and greater depths. With increased depth of mining the risks of rock-fall became greater. This in turn meant that more money had to be spent on timbering and on various safety precautions. Ventilation grew more expensive. So did the transport of ore. All this meant greater expenditure.

There also were problems of a financial kind. The British South Africa Company had originally governed the Territory. In 1924 it handed over the administration to the Colonial Office but it retained the mining rights. The copper companies had to pay heavy royalties to the British South Africa Company and these became an ever heavier burden, for they were linked to the price of copper rather than to profits, and the price of copper went up together with that of all other important commodities.[57]

Lastly—in addition to rising costs—a serious new menace emerged in aluminium. The light alloy industries had expanded enormously during the war. Light metals went into forgings, castings, sheets, and extrusions. They were used in the aircraft industry. They might find further new uses in the construction of ships and in the manufacture of electrical and domestic equipment. The United Kingdom, which in 1939 had possessed no certain source to sustain its aircraft industry, was able to meet all its heavy war-time demands

in 1945.[58] In many branches of industry light metal might supplant copper, and the potentialities of the new rival had not yet been explored to the full.

It is therefore hardly surprising that the industry was taking a somewhat pessimistic view of the future when the war ended. In 1944 the British Government had already decided to cut its purchases from Northern Rhodesia, believing that the demand for arms would become smaller and less copper would be required.[59] A little later the Ministry of Supply ended its programme of bulk purchases for the time being,[60] little realizing that it was failing to provide for an adequate supply in what were going to be the years of post-war shortage. Instead, experts rather feared over-production. They calculated that the reduction of military copper consumption by the change over from a two-front to a one-front war against Japan would be equal to about 264,000 tons per annum. Besides, it was clear that there would be very large stocks of copper in existence at the end of the war. Moreover the demand from the Axis powers would have temporarily disappeared at a time when all overseas suppliers had vastly expanded their capacities.[61] In consequence of these pessimistic calculations the Rhodesian industry reduced its production, which fell from 250,000 long tons in 1942 to 183,000 tons in 1946.

Events, however, confounded all experts. The war had starved the world of goods and left it with an enormous demand. It had left vast devastated areas which needed rebuilding, and it led to primarily American-sponsored aid plans like U.N.R.R.A. and Marshall Aid. The United States and Great Britain, the two principal copper consumers of the world, were soon to require more of the metal than had been thought possible. The United States had further expanded her vast industries under the stimulus of war and immunity from enemy attacks and became a net importer of copper. Britain, on the other hand, had lost a large proportion of her foreign investments. She could no longer draw on dividends from foreign and colonial countries to the same extent as before to pay for her imports. Instead she had to export manufactured goods in order to exist. The merchandise which found customers most easily was electrical engineering equipment, for which copper was important.

In a world starved for goods, America was able to pay more for her raw materials than impoverished Britain, and when the Americans scrapped their price ceiling for copper in 1946 [62] the United Kingdom ran into serious difficulties. Britain returned to bulk-buying, but the Ministry of Supply had failed to build up a sufficient supply whilst it had been able to do so, and now it was unable to force its will upon the market. From 1949 the Ministry kept its selling prices in line with those on the American market.[63]

Prices of copper increased further when Britain devalued the pound. Devaluation meant that Britain could export more easily

as foreigners could now acquire more of her currency with the same amount of theirs. Britain, on the other hand, had to pay more of her depreciated money to acquire goods from abroad. Copper was one of these and its price increased. In addition, reconstruction was followed by rearmament as relations between the Western Powers and the Soviet Union grew steadily worse. Western Germany recovered some of her old position in the world market after 1948 and became an importer of copper. Finally the Korean War broke out. By 1950 prices had reached a boom level and 19¼ cents were being paid for a pound of copper in New York.[64] As far as Britain was concerned, the position had become so serious that the Ministry of Supply became willing to pay even higher prices than those prevailing in New York, in order to get any copper at all.[65]

In the end it became necessary to allocate copper and other scarce raw materials, like sulphur, by international agreement in order to assure the rearmament programme and to supplement the North Atlantic Treaty Organization in the economic field. In 1951 an International Materials Conference met in New York. This was composed of a number of sub-committees in which the N.A.T.O. states and a number of other non-Communist countries such as Western Germany took part.[66] The Conference was successful, as the United States did not use its overwhelming economic strength to the full in the race for raw materials. Political negotiation had taken the place of the free market in the allocation of goods.

The Northern Rhodesian industry very greatly benefited from all this. Britain continued to take the bulk of its copper at ever-increasing prices. Rhodesia was the most important copper producer by far in the Sterling Area, Canada being outside it. This gave Rhodesia a great advantage at a time when Britain could not pay for all her dollar imports by her exports. Bulk-buying did not injure the industry, for the contracts were never of a sufficiently long-term character to deprive the Rhodesian industry of the advantages of rising prices. Bulk-buying, on the other hand, meant that the Government could conduct business most easily with a small number of vast concerns. This was of advantage to big producers like the Rhodesian firms for in the olden days, when the free London Metal Exchange had been in operation, merchants had been able to pick up small parcels of copper from small producers in remote corners and thus exert more pressure on prices.

The Rhodesian industry therefore enjoyed a prosperity without parallel in its history. Rhokana's profits alone jumped up from £6,687,165 to £10,483,687 in 1951 in the course of a single year, and its dividends rose from 120 to 200 per cent.[67]

The Rhodesian industry met its opportunity by further expansion of production. At the beginning of the Korean War Nchanga decided to double its milling capacity.[68] Rhokana and Nchanga

co-operated in starting the Rhodesia Refineries Limited in order to produce electrolytic copper of higher purity. This move was one of considerable importance to the Sterling Area, as Britain did not possess sufficient electrolytically refined copper and exported scrap copper to the tune of 145,000 tons per annum to North America in order to get the metal refined, in exchange for dollars.[69] In addition, the industry made a determined attempt to increase its output of cobalt, an important constituent in the production of high speed and stainless steel. Finally copper mining itself expanded. In December of 1952 the Board of Rhokana Corporation agreed to open another big mine in the Copper Belt at a total cost of £11,000,000, and to construct a new mining town, capable of housing another 4,000 Africans and 500 Europeans.[70]

The industry also made important administrative changes. In 1950 Rhokana, Nchanga, Rhodesia Anglo-American, and others moved their headquarters from London to Northern Rhodesia, leaving the ' City ' which had long been losing much of its importance as the main centre of world finance. As far as the Rhodesia Companies were concerned, they were now able to escape much of the heavy taxation in the United Kingdom,[71] which was attempting to pay both for the welfare state and rearmament.

The move also brought with it political advantages. The balance of political power had long been shifting from London to the European population of the Territory. If the companies moved to Northern Rhodesia, they could exercise far greater influence locally, where they constituted the greatest economic power, than they could in London, where they were overshadowed by many other interests. So Sir E. Oppenheimer, the great mining personality in the Territory, argued that after the move had been effected, it became possible to determine policy locally in consultation with Government and other authorities. This was most essential in an increasingly complex situation in which—as he believed—the views of the mining companies on many problems, especially those of European and African labour, must carry much weight.[72] Roan held back for a while, but nevertheless its chairman considered that if Rhodesia became a Dominion, the Board would think again.[73] Once having moved to Rhodesia, the companies were thus more likely to support local autonomy.

In the last thirty years Northern Rhodesia has become a house built on copper. By 1951 the Territory was producing roughly over 300,000 tons of copper. One-third of this now was of the valuable electrolytic variety. The total value of the Territory's copper exceeded £60,000,000, whilst the total mineral production of the country was valued at over £72,000,000. Minerals in their turn accounted for about 95 per cent of the Territory's exports.[74]

Similarly the copper industry had become the largest employer of labour and the most important taxpayer in the country. An overwhelmingly large share of funds for the Government, for social

improvement schemes, for aid to other producers, would have to come from the profits of the copper mines in future. The copper industry in its importance for Northern Rhodesia has come to rival that of the gold industry of South Africa, from which indeed much of its capital and of its European labour has been drawn.

The key position held by the copper industry for the future of the Territory will make high demands on leaders of the industry. There will be technical problems concerned with increasing difficulties in extracting the metal. The industry has met this with energy and enterprise of a high order in the past and may be expected to do so in the future. Then there will also be the problem of disposing of the product. This is unlikely to present very great difficulties as long as copper is sold at prices that do not encourage the use of substitutes. As long as the world-wide process of electrification continues, copper will be needed. The radio and television, automobile and aircraft industries, and the nuclear power industries of the future, will require the metal. Thus, provided that the non-Communist world can escape economic crises by the kind of economic co-operation shown at the International Materials Conference, the copper mines will continue to find customers.

The most difficult problems, however, will be those of a human order. The industry will be faced with a conflict between White labour, wishing to retain its old monopoly of skilled labour, and Black labour, wishing to advance. If the industry supports White labour, which may be expected to be socially more conservative, it will have to meet a higher wage-bill than it would if it employed Black skilled labour. It will also have to meet political opposition on the part of Africans, which will increase in the future. If the industry should effectively back the demands of African skilled labour, on the other hand, it will meet with the opposition of a European working class, able to make its opposition felt with the right to vote in a country where the European vote will determine the immediate future. It is also probable that the European workers would be supported by other interests. For example, the farmers would see disadvantages in a rise of African wage-rates, or in new openings for Africans in industry, which would deprive them of their labour.

Whatever solution the industry adopts, it will have to abandon all hopes of ever being a low-cost producer again as it was in the thirties. The peculiarly favourable combination of circumstances, which made this possible then, is unlikely to recur. In addition there will be many new obstacles in the social field. The companies may escape the welfare state by shifting their headquarters. They will, however, sooner or later have to contribute to a new welfare state in the land of their adoption. The benefits of this cannot be permanently limited to the European workers. The process by which African tribesmen are becoming Westernized industrial workers cannot be held up. The urbanized African miner will

no longer be able to draw his subsistence in old age and unemployment by returning to the tribal reserve and by relying on the help of his fellow villagers who provided the services given by the state elsewhere. Instead the miners will need the care miners get in other mining-areas of the world. Besides, the demands of these men are likely to increase further as they have the example of the European workers constantly before their eyes. The mining companies clearly recognize that future profits depend on social stability and racial peace in the Territory. The onerous task before the companies now is to find some compromise between the partially conflicting interests of White and Black labour—and on the success of this compromise depends the future of the Territory as a whole.

NOTES

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16. *Economist*, 10 February 1923 and 14 April 1924.
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21. The most important were R. J. Parker and Dr. J. A. Bancroft.

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23. *Economist*, 14 September 1929.
24. For the financial structure of the industry in the thirties see *Economist*, 12 May 1934.
25. Annual General Meeting, Rhokana Corporation, *Economist*, 4 November 1933.
26. Sir A. C. Geddes at 8th Annual General Meeting of the Rhodesia Congo Border Concession, *Economist*, 20 December 1930.
27. *ibid.*, 9 September 1933.
28. *ibid.*, 9 July 1932.
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31. *Economist*, 9 September 1933.
32. *ibid.*, 4 November 1933.
33. *ibid.*, 12 May 1934.
34. *ibid.*, 2 January 1932.
35. *ibid.*, 25 June 1932.
36. *ibid.*, 17 December 1932.
37. *ibid.*, 8 April 1939.
38. *ibid.*, 24 September 1938. The consumption per capita of the U.K. rose from 7·18 lb. in 1929 to 14·29 lb. in 1937, whilst the corresponding figures for the U.S.A. amounted to 18·42 in 1929 and 13·59 lb. in 1937.
39. *ibid.*
40. *ibid.*, 1 August 1936.
41. *ibid.*, 22 October 1938.
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43. *ibid.*, 22 October 1938.
44. *ibid.*, 18 February 1938.
45. *ibid.*, 15 August 1942.
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50. The average price for electrolytic copper between July and August 1939 was £51 5*s.* per ton and was raised to £62 in December 1939 (Hurstfield, *op. cit.*, p. 369).
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58. *ibid.*, 12 January 1946.
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60. *ibid.*, 16 December 1944.
61. *ibid.*, 23 June 1945.
62. *ibid.*, 5 April 1947.
63. *ibid.*, 17 September 1949.
64. *ibid.*, 22 November 1950.
65. *ibid.*, 7 April 1951.
66. *ibid.*, 29 December 1951.
67. *ibid.*, 27 October 1951.
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70. Annual General Meeting of Rhokana at Kitwe, *ibid.*, 13 December 1952.
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MONEY ECONOMY AMONG THE MWINILUNGA NDEMBU: A STUDY OF SOME INDIVIDUAL CASH BUDGETS

by

E. L. B. TURNER and V. W. TURNER

IN the course of our fieldwork among the Ndembu of Mwinilunga District of Northern Rhodesia,[1] we became increasingly impressed by the extent to which money economy was replacing the traditional economy of barter and exchange. Marriage payments, for instance, formerly made in cloths, guns or small livestock, are now made in cash. Hoe- and axe-blades, once exchanged by blacksmiths for meat and vegetable produce, are now sold by them for money. Kin nowadays give each other presents of money as well as of fowls and cassava meal. Doctors and herbalists are paid in cash instead of in goods. Money economy, in fact, is penetrating into all the pores of social life. In order to discover the sources of the cash income and obtain some idea of the pattern of expenditure we conducted a small survey of cash budgets with the help of two African assistants. Budgets were collected towards the end of the dry season, in August and September, 1951, and again in the middle of the rains in January and February, 1952. A useful guide, both for the mode of collection and subsequent analysis of budgets was found in Dr. Mitchell's paper on 'The Collection and Treatment of Family Budgets in Primitive Communities as a Field Problem' in the *Rhodes-Livingstone Journal*, Number Eight (1949). Before discussing the methods of collecting budgets and the practical difficulties involved in this task, we think we should give a brief account of the traditional subsistence economy, in order to highlight the modern trend towards a money economy.

THE INDIGENOUS MODE OF SUBSISTENCE

The Ndembu, a matrilineal people, are a branch of the great Lunda tribe, and, under the authority of Chief Kanongesha, inhabit Mwinilunga District to the west of the Lunga river. They are shifting cultivators, growing cassava as their staple crop. They also grow a limited amount of finger millet, by small-circle *citemene* methods, mainly for beer-making, and cultivate maize in the black

[1] I spent two periods of fieldwork as a Research Officer of the Rhodes-Livingstone Institute, in 1951–2 and again in 1953–4, collecting data on social and political organization and ritual among the Ndembu. My wife collected much information on the economy.—V. W. T.

alluvial soil found along many streams. In addition to these crops, they grow sweet potatoes, beans, groundnuts, a few yams in village gardens, cucurbits, and a number of European vegetables such as tomatoes, potatoes, and cabbages. Spinaches and small solanaceous plants are grown as relishes, and cassava and sweet-potato leaves are also used for this purpose.

Bush is cleared annually by communal working parties (*venda*) of men, who work for each other in turn. The felled trees and branches are piled up in heaps collectively occupying about an eighth of the cleared area. These are burnt and the ash-heaps are broadcast with finger millet. The following year the cleared area is hoed up into mounds which are planted with cassava cuttings. Eighteen months afterwards cassava roots are removed from some of the mounds, and thereafter continually for two-and-a-half years until the total crop has been lifted. The garden which has thus been used for five years is then left for about thirty years before it is cultivated again. In the areas where the influence of cash economy is least, we have found that the average amount of garden land per head of population is about one acre.

Gardens are owned and worked individually. Husbands and wives make and work their own gardens, and although married couples may assist one another, the produce of their gardens belongs to the makers of the gardens. If a woman is divorced her husband has no claims in the gardens she has made in his village, or, if widowed, her gardens are today sold on her behalf by her senior male matrilineal relative who comes at the end of the funeral ceremony to take her back to her own village. With the exception of the collective cutting and clearing of bush, and a collective work-party to hoe up mounds for a gardener on the first day of cultivation —in return for beer or meat provided by the sponsor of the party —cultivation is mainly done individually, although members of an elementary family may assist one another. Stream-side gardens are individually owned and worked solely by women, and the whole work of weeding, digging, soaking, drying, pounding and cooking cassava devolves upon women.

Nevertheless, although agricultural production is dominantly individualistic, consumption tends to be communal. Each village woman takes turns in a rotation to provide and cook cassava from her own or her husband's garden for the entire male population of the village except for young uncircumcized children. The group of men eat together in the central unwalled village shelter (*chota* or *njang'u*) which serves as a palaver- and mess-hut. Women eat apart with their children in their kitchens around the village periphery.

Ndembu do not possess cattle and only a limited number of small livestock. Universally in the past, and in the southern part of their territory today, the major source of animal protein was the product of hunting and trapping. Since Mwinilunga is a region

of river-sources with few large rivers, especially in the north where the population is most dense, the contribution of fishing to the diet was unimportant, being mostly in the form of fry and immature fish. Hunting was valued out of all proportion to its objective contribution to the food supply and was highly ritualized. It was carried out either individually by professional hunters with muzzle-loading guns and by trapping and snaring, or by small bands of villagers who made expeditions into the bush to areas where game was known to be plentiful. The meat obtained by both methods was divided by the hunter into a series of recognized joints, each of which had its own name. Each type of joint was handed over to a particular category of village kinsman or in-law of the hunter. Part of this was consumed by the recipient and his family and part of it supplied to the men's group in the village shelter. Other sources of animal protein were small mammals, birds, caterpillars, grubs, crickets and winged termites, often snared or collected by children.

MODERN CHANGES: THE GROWTH OF PETTY COMMODITY CULTIVATION AND THE INTRODUCTION OF WAGE LABOUR

European government and settlement, both in Northern Rhodesia as a whole and in Mwinilunga District in particular, have strongly influenced the traditional system of subsistence. The need for cash first arose in 1913 when taxation was introduced, but taxation long ago became a secondary incentive to earn money, its place being taken today by store goods which account for the greater proportion of the total expenditure (see Table IV). In the Ndembu region European settlement is almost confined to missionaries and is unevenly distributed. Most settlement is in the tiny north-western pedicle of the District, where there is a Mission Hospital and School at Kalene Hill; a school at Sakeji for the children of missionaries, some twelve miles away; and a cattle ranch, with an attached store, in the immediate neighbourhood of Sakeji School. In addition to this store there are three other European-owned stores in the pedicle. At the capital villages of the three Native Authority Sub-chiefs in the pedicle, there are mission schools, and the Native Authority employs a number of labourers on road maintenance and the erection of buildings. Partly for historical reasons which we need not discuss here, partly on account of European settlement with the opportunities this offers for paid labour and as a market for local produce, and partly because it lies across labour routes from Angola to the Northern Rhodesian and Katanga urban areas, the pedicle has become an area of relatively high population density. This is illustrated by Table I, based on Government estimates.

An important consequence of the high population in the pedicle has been the virtual extermination of game in this area. Meat

TABLE I

TOTAL POPULATION IN NDEMBU REGION

N.A.	*Area (sq. m.)*	*Popn.*	*Density (per sq. m.)*
Pedicle Chiefdoms			
Ikelenge	230	6,927	30·12
Nyakaseya	288	3,614	12·55
Mwininyilamba	162	978	6·04
Total Pedicle	680	11,519	16·91
Other Ndembu Chiefdoms			
Kanongesha	1,098	3,476	3·17
Chibwika	1,216	3,351	2·76
Total Other Chiefdoms	2,314	6,827	2·92
Total Ndembu	2,994	18,346	6·13

and fish have to be bought or hunters and fishermen must travel long distances to obtain them.

Due perhaps to the early influence of missions in the pedicle a high value soon became attached to European clothing. Domestic servants and labourers were paid in cloths by the founders of Kalene Mission Station. Later when Government and Mission began to pay cash wages to chiefs, clerks, councillors and labourers, and stores were opened which sold clothing, implements and utensils, a money economy rapidly developed in this area. Two main sources of cash income arose, work for wages and petty commodity cultivation.[1] The latter term denotes the deliberate cultivation of introduced crops for cash sale as well as the extended cultivation of traditional crops over and above subsistence needs for the same purpose. The major introduced crop is rice, mainly grown on moist plain margins and in stream-side gardens. Groundnuts, already grown in the traditional system, are now grown in greater quantities for sale.[2] With the extension of the Boma or Government Headquarters and the wide employment of P.W.D. labourers on road construction, Government began to buy large quantities of cassava meal as rations. The relatively fertile soils of the pedicle —another reason for its dense settlement—were extensively exploited

[1] We are indebted to Mr. W. Allan, former Deputy Director of Agriculture in Northern Rhodesia, now Director of Agriculture in Cyprus, for this term.

[2] Due to competition with rice, however, groundnut production for sale fell to an all-time low in 1951.

by villagers to meet this demand. A number of African middlemen have begun to operate in the pedicle who buy cassava meal from villagers and resell it to Government. Traders from the Congo occasionally make illegal penetrations into Mwinilunga and buy further supplies. Cassava is also exported to Solwezi District where there is an annual hunger period.[1] These demands for cassava meal cannot be met from the normal surplus of subsistence agriculture and additional acreages have been taken in for this crop. We found in Ikelenge Area, near Sakeji School and the adjoining Hillwood Farm, that in two villages where we made detailed garden measurements about two acres per person were under cassava. In this area we also found that two and sometimes three plantings of cassava were being made in the same gardens without an intervening period of forest regeneration. Little finger millet is now grown, for the taller trees have been cut down. In 1951 Chief Ikelenge forbade the continued sale of cassava by a group of neighbouring villages to prevent a local famine.

Rice is sold to European traders from the Line-of-Rail and also to Sakeji School where there are about sixty European pupils and teachers. In 1951 hand-hulled first-grade rice fetched from 4*d*. to 6*d*. per lb. The District Commissioner, Mr. R. C. Dening, estimated that about 100 tons was bought by traders in Mwinilunga District, much of it, however, from the region east of the Lunga. Supplies of seed are distributed on a repayment basis by the Native Authority Agricultural Department.

In other parts of the Ndembu region the growth of a money economy has been slower, although petty commodity cultivation has developed around the Boma, Native Authority centres and Mission stations where there are European-owned stores, schools and dispensaries. But even in the remoter bush areas where hunting and subsistence agriculture still prevail, meat, beeswax and other sylvan produce are now sold for money and not exchanged for vegetable produce. Hunters with licences to sell meat bring dried meat to Native Authority markets in the pedicle for sale, and the clandestine sale of ' bush meat ' still goes on at the village level.

Labour migration to the towns to find paid employment has been on the increase since the war. Remittances of money are sometimes sent home to relatives but it is more usual for migrants to return with presents and distribute them among kin when they arrive at their villages. Many of the migrants purchase the standing-crop in gardens rather than wait for eighteen months for the cassava crop to mature. Some migrants are beginning to start small ' businesses ' with their savings. Some buy sewing machines and set up as tailors, others start ' tea-rooms ' on the motor roads, and others again become hawkers and small traders.

[1] According to the 1951 District Report, kindly made available to us by the District Commissioner, Mr. R. C. Dening, 380 tons of cassava were bought by Government, 24 tons of which were sent to Solwezi.

THE COLLECTION OF BUDGETS: METHODS AND DIFFICULTIES

At the outset of the enquiry we thought in terms of a 'family' budget, as though husband, wife and children contributed their cash earnings to a common pool from which payments were made for the requirements of each member of the family as the need arose. We soon found, however, that Ndembu themselves were not accustomed to think in this way but regarded the earnings of each individual, man, woman or child, as his or her own possession to be used as he or she thought fit. A husband was under an obligation to clothe his wife and children, although under none to reveal his income. But a woman was not obliged to give any of her earnings to her husband although she might do so to keep domestic peace. In all cases we found that spouses had very little idea of the amount of one another's income. The individualistic bias found in the traditional mode of agricultural production was repeated in the cash budget. We therefore gave up the attempt to collect family budgets and treated our findings as individual budgets, although a certain percentage of each income must have been spent on other members of the earner's family.

We did not have time to note down the daily income and expenditure of any member of our sample, nor did we think this worthwhile in view of the small sums of money involved. Our enquiries were concerned with *annual* income and expenditure as recalled by informants. In order to estimate income we drew up a list of the means of obtaining money we knew from experience were employed by Ndembu. These included money from wages; from the sale of crops, game meat, and sylvan produce, each item of which we tried to record; from the sale of livestock, as meat or on the hoof; from the sale of local craft products such as the wares of blacksmiths, potters and basket-makers; from gifts from relatives; from payments for ritual services; and from bridewealth and funeral payments. We also compiled a list, as comprehensive as we could make it, of the principal items of expenditure known to us and our African assistants. These included store goods, based on a list of the stocks held by two European-owned stores, and the items we had recorded under sources of income.. Each list, income and expenditure, was augmented as the survey proceeded, and as far as possible we rechecked our earlier informants in the light of the new information.

Each person interviewed was asked about the various moneys spent and gained over the period of a year, his or her recall being assisted by the lists described above. Dr. Mitchell points out [1] how such recall 'can at the most be (merely) approximate'. As evidence of this he cites how the budgets he and Barnes collected among the Lamba did not balance. 'Yet considering these facts,' he continues, 'the degree of concordance between the amounts

[1] Mitchell, J. C., *op. cit.*, p. 50.

given as income and those given as expenditure is really very close.' People living hardly above the margin of bare subsistence find little difficulty in remembering each particular amount of money which comes into their hands. In our own survey we did not find too great a discrepancy between income and expenditure, taking into account the unsatisfactory method of investigation we were forced to employ.

Our first survey was conducted mainly in the pedicle area among villages within a radius of about seven miles from Sakeji School and Hillwood Farm, in Chief Ikelenge's area. The second survey included all the adult inhabitants of a single small village in Chief Ikelenge's area, fifteen in number, which we were studying as an economic unit, five men and seven women in ' bush ' villages out of the pedicle in Chief Kanongesha's area, and six men and six women in Chief Mwininyilamba's area, within the pedicle but removed from the vicinity of European settlement. This area we regarded as transitional between the populated pedicle and remoter ' bush ' areas. There was thus no question of obtaining a random sample ; the sample was casual and haphazard and was peripheral to our enquiries in other fields. Nevertheless, as the Culwicks once pointed out, where there is no electric light a candle is better than nothing in the darkness ! Significant differences in the size and structure of average cash budgets as between men and women, and between the average budgets of pedicle and ' bush ' populations emerged from the enquiry and threw light on other features of the social organization. The results of the two surveys are combined in the Tables presented below.

ANALYSIS OF BUDGET DATA

The budgets of 39 men and 68 women are presented here. About a dozen other budgets have been rejected on the grounds of unreliability or inadequacy of information. The budgets of five persons under eighteen have been omitted.

Table II shows the scatter of members of the sample in income-groups. It also attempts to classify them in terms of cash-earning occupation. A person's most remunerative economic rôle is listed first, and other rôles that contribute substantially to his income are successively hyphenated in order of importance.

Within each income-group the individuals are listed in descending order of wealth. The term ' Woodsman ' refers to a person who earns money from the sale of sylvan produce, such as building materials (thatching grass, poles and rafters), beeswax, honey for mead, etc. The term ' Cultivator ' refers to a person who sells traditional subsistence crops for cash. Headmen are noted in brackets.

The mean income of men in the budget sample was found to be £14 10*s*. 4*d*., and that of women £5 5*s*. 6*d*. The median income for men was £11 9*s*. and of women £4 3*s*. 3*d*. A few women in

TABLE II (*a*)

DISTRIBUTION OF ECONOMIC RÔLES IN INCOME GROUPS (MEN)

Income Group	*Occupations*	*No. of Persons*
£30–£34	Builder	1
£25–£29	Carpenter (Headman) Fisherman—Cultivator—Builder Labourer from Congo—Cultivator	3
£20–£24	Labourer Builder	2
£15–£19	Woodsman—Cultivator—Labourer Cultivator Woodsman—Cultivator—Hunter Labourer—Hunter Carrier Herdsman (Headman)	6
£10–£14	Cultivator—Fisherman—Rice-grower (Headman) Labourer—Fisherman—Cultivator Cultivator—Woodsman (Headman) Rice-grower—Stock-keeper Cultivator—Woodsman Labourer—Cultivator (2 Persons) Cultivator—Woodsman Woodsman—Cultivator—Labourer	9
£5–£9	Carpenter Woodsman—Labourer (Headman) Cultivator—Woodsman—Rice-grower Cultivator (Headman) Stock-keeper—Cultivator Blacksmith—Stock-keeper (Headman) Cultivator Fisherman Labourer—Woodsman Stock-keeper	10
£0–£4	Fisherman—Woodsman (Headman) Labourer—Hunter—Rice-grower Cultivator—Woodsman—Labourer Hunter Labourer—Woodsman Cultivator—Labourer Labourer Doctor	8
	Total	39

TABLE II (*b*)

DISTRIBUTION OF ECONOMIC RÔLES IN INCOME GROUPS
(WOMEN)

Income Group	*Occupations*	*No. of Persons*
£35–£39	Cultivator from Congo	1
£30–£34	—	—
£25–£29	Trader—Fisherman—Cultivator—Rice-grower (Woman Headman)	1
£20–£24	—	—
£15–£19	—	—
£10–£14	Cultivator—Rice-grower—Fisherman Cultivator—Stock-keeper—Brewer	2
£5–£9	Stock-keeper Cultivator—Rice-grower—Brewer Cultivator—Stock-keeper Cultivator—Fisherman Cultivator—Labourer Cultivator—Rice-grower (4 Persons) Cultivator (7 Persons)	16
£0–£4	Cultivator—Labourer Rice-grower—Labourer Rice-grower Brewer (2 Persons) Cultivator—Rice-grower (2 Persons) Cultivator (41 Persons)	48
	Total	68

the higher-income groups are responsible for the discrepancy between mean and median. Table II reveals little correlation between the status of headman and a 'large' income in Ndembu terms. Employed and self-employed persons tend to cluster in the higher-income male-groups, while the majority of women are cultivators.

AVERAGE INCOME BY AGE-GROUPS

Table III presents the average income of men and women in the total budget sample by age groups, and Table IV the average expenditure of men and women by age groups. The proportion of persons in each age group is given in Table V.

The sample is too small to allow far-reaching inferences to be drawn, but a few comments can be made. It is clear, for instance, that the bulk of men's income is derived from wages and the major component of women's income is the sale of crops. Store-goods comprise for both sexes the principal items of expenditure, among which clothing rates high. Women as might perhaps be expected spend relatively more of their money on utensils, pots, pans, plates, etc., than men, and less on taxes, levies and court fees (including fines).

Older men make quite a lot of money from the sale of beeswax and building materials, and they also make and spend large sums on the sale and purchase of standing-crops. Among men and women alike the wealthiest age group as regards income appears to be the 30–39 years group, in which wage-earning contributes a high proportion of the male income and trading of cash crops a high proportion of the female. Older people on the whole seem to spend and earn more than the younger.

Income and expenditure seldom balanced in the individual budgets. For the purpose of this study, following the method employed by Mitchell and Barnes,[1] whichever of the amounts was the larger was taken to be correct and the difference entered as ' unaccounted ', so that in each case the income could be balanced with the expenditure. Unlike the Lamba, the Ndembu informants recalled having spent less than they earned.

Unaccounted sums may appear to be high. This is probably due in the main to the mode of investigation we were compelled to employ. Ndembu regard what is secret, private and confidential with suspicion. People should not have secrets from one another. Secrecy has overtones of sorcery. When we visited villages, therefore, we recorded budgets outside the huts of our informants. A small circle of relatives and neighbours would gather round. As in other parts of Africa relatives can claim gifts of cash and kind from one another. If an informant publicly revealed the full extent of his cash savings he would speedily become the subject of demands on them from kin. In my second tour I became aware that many Ndembu saved money, in boxes buried secretly in the ground or in suitcases and boxes often left trustfully in their huts. The unaccounted sums may perhaps be ' accounted for ' partly as due to lapses of memory, and partly, but not significantly, as the gains of illicit transactions ; but dominantly they are probably savings,

[1] Mitchell, J. C., and Barnes, J. A., *The Lamba Village :* Report of a Social Survey, Communications from the School of African Studies (New Series, No. 24), Cape Town (1950), p. 57.

TABLE III

AVERAGE INCOME IN AGE GROUPS

(*a*) MEN

Ages	*18–19*	*20–29*	*30–39*	*40–49*	*50–59*	*60–*	*Weighted Average*	%
Cases	*3*	*4*	*4*	*11*	*12*	*5*		
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Cassava	3 0	4 10	16 0	10 10	1 18 6	12 2	15 9	5
Rice	5 2	3 9	7 6	2 7	9 11	8 7	6 8	2
Other Crops	4 5	1 9 3	12 0	13 1	1 13 9	1 7 1	1 3 2	8
Total Crops	12 7	1 17 10	1 15 6	1 6 6	4 2 2	2 7 10	2 5 7	15
Wages	1 6 4	2 8 6	13 17 6	5 14 7	3 8 8	4 16 0	5 18 10	41
Gifts	10	2 2 8	5 0	10 5	9 8	7 2	15 9	6
Meat Foods	8 10	1 7 4	3 17 1	1 10 3	3 1 9	1 9 4	2 4 6	15
Building Materials	4 6	2 12 9	1 10	1 3	7 11	1 0 7	18 9	7
Beer	1 4	8 11	—	5	6 11	1 9	3 9	1
Traditional	—	—	1 3	1	1 3	3 9	1 3	—
Beeswax	1 6	5 3	1 3	2 10	15 5	10 1	6 11	2
Standing Crops	—	—	—	—	13 6	11 0	4 10	2
Miscellaneous	1 1	1 1	—	8 0	1 8	19 4	5 8	2
Unaccounted	9 1	7 7	6	1 12 6	3 4 0	1 8 6	1 4 6	9
Total	3 6 1	11 11 11	19 19 11	11 6 10	16 12 11	13 15 4	14 10 4	100

(*b*) WOMEN

Cases	*2*	*16*	*14*	*17*	*8*	*11*		
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	%
Cassava	1 2 9	1 3 1	3 17 2	1 6 8	1 17 1	11 0	1 19 8	37
Rice	—	10 2	13 3	5 3	4 9	2 2	8 0	7
Other Crops	6 0	19 4	13 5	1 10 2	1 2 10	9 8	17 1	17
Total Crops	1 8 9	2 12 7	5 3 10	3 2 1	3 4 8	1 2 10	3 4 9	61
Wages	—	1 0	5	—	1 3	—	6	—
Gifts	—	7 7	1 11	19 9	6 3	6 9	6 8	6
Meat Foods	3	9 10	8 8	11 9	15 10	2 10	8 8	9
Building Materials	—	1	5	5 4	—	—	11	1
Beer	9	1 4	3 9	6 5	1 4	9	2 8	3
Traditional	—	2 8	1 9	1 1	4 8	2 5	2 1	2
Beeswax	—	—	—	1 8	—	—	3	—
Standing Crops	—	2 6	—	—	—	5 8	1 4	1
Miscellaneous	—	4 3	5	1 11	4 0	1 0	2 0	2
Unaccounted	2 9	8 3	13 4	1 0 8	2 12 6	7 9	15 8	15
Total	1 12 6	4 10 1	6 14 6	6 10 8	7 10 6	2 10 0	5 5 6	100

and credits and debts to which the informant did not want to give publicity. It must be remembered that in all peasant societies behind the façade of publicly vouchsafed information there exists

TABLE IV

AVERAGE EXPENDITURE IN AGE GROUPS

(*a*) MEN

Ages	*18–19*	*20–29*	*30–39*	*40–49*	*50–59*	*60–*	*Weighted Average*	%
Cases	*3*	*4*	*4*	*11*	*12*	*5*		
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Clothing	1 16 10	5 13 4	7 5 1	5 1 4	7 4 4	4 9 7	5 17 4	40
Utensils	2 8	19 6	1 5 7	12 10	1 1 10	1 1 8	1 0 4	7
Other Store Goods	8 11	1 5 6	1 18 4	2 10 5	1 16 2	1 3 2	1 12 9	12
Total Store Goods	2 8 5	7 18 4	10 9 0	8 4 7	10 2 4	6 14 5	8 10 5	59
Meat Foods	1 11	6 10	1 8 9	9 4	2 7 10	1 1 6	1 2 4	8
Traditional	4	3 9	1 11 9	13 5	7 7	9	10 11	4
Taxes, etc.	1 10	7 6	9 0	7 1	4 6	1 10 10	11 11	4
Building Materials	2 8	6	7 0	1 0	14 4	6 10	5 11	2
Gifts	3 4	—	1 3	—	1 3	—	7	—
Beer	3	9	—	3	2 1	1 5	11	—
Miscellaneous	3 4	5 11	1 2 5	7 6	1 7 4	11 10	14 9	5
Unaccounted	4 0	2 8 4	4 10 9	1 3 8	1 5 8	3 7 9	2 12 7	18
Total	3 6 1	11 11 11	19 19 11	11 6 10	16 12 11	13 15 4	14 10 4	100

(*b*) WOMEN

Cases	*2*	*16*	*14*	*17*	*8*	*11*		
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	%
Clothing	2 9	1 12 0	1 17 10	2 4 11	3 6 8	1 0 11	1 15 3	33
Utensils	8 11	19 10	1 0 6	1 5 3	1 16 6	8 0	1 0 7	20
Other Store Goods	7 8	14 2	14 11	19 11	1 4 4	5 0	14 7	14
Total Store Goods	19 4	3 6 0	3 13 3	4 10 1	6 7 6	1 13 11	3 10 5	67
Meat Foods	2 4	8 2	5 6	13 6	10 4	3 8	7 3	7
Traditional	—	4 9	1 5	12 3	9	1 8	3 5	3
Taxes, etc.	—	—	2 8	2 3	1 4	10	1 4	1
Building Materials	—	1	1	9	3	—	2	—
Gifts	4 0	1 1	4	4	—	1	9	1
Beer	1 3	2	—	4	—	—	2	—
Miscellaneous	1 1	11	2 2	2 2	6 9	4 3	2 6	2
Unaccounted	4 6	8 11	2 9 1	9 0	3 7	5 7	19 6	19
Total	1 12 6	4 10 1	6 14 6	6 10 8	7 10 6	2 10 0	5 5 6	100

a background of social intrigue and conflict within and between groups, and that this background conditions the type and amount of information given. In view of this factor the discrepancy between income and expenditure was fairly small.

STRATIFICATION OF THE SAMPLE

Since the sample was exceedingly small and collected on a casual rather than a random basis it was felt that rather greater accuracy would be obtained if the age and sex structure of the budget sample was corrected to bring it into line with that of the total population of the villages where budgets were recorded. Table V shows the age and sex structure of the budget sample compared with that of the total population, each age-sex group being expressed as a percentage of the total population.

TABLE V

WEIGHTING BY AGE-GROUPS

Age Group	*Proportion of Persons Interviewed*		*Proportions in Whole Population* *	
	Men	*Women*	*Men*	*Women*
18–19 . . .	3	2	1	5
20–29 . . .	4	15	10	14
30–39 . . .	4	13	9	17
40–49 . . .	10	16	6	8
50–59 . . .	11	7	8	6
60- . . .	5	10	9	7
Total . . .	37	63	43	57
Grand total .	100		100	

* Not weighted by area. See Table VIII.

The difference between the average male income in the uncorrected and corrected samples, £13 8*s.* 10*d.* as compared with £14 10*s.* 4*d.*, shows the importance of weighting. Dr. Mitchell has pointed out [1] that ' corrections thus made to original data can be appreciable and serve to correct many misimpressions that may be given by crude data '. Once more the importance of wages in the men's, and crop production in the women's, income is underlined by this method, and the percentage of income contributed by the sale of meat in a sample in which there is a preponderance of persons from the north-western pedicle is appreciable. The rôle of the European-owned stores in stimulating new wants emerges in the high percentage of expenditure devoted to store goods. In a study of the motives underlying labour migration I have constantly come across the need to buy clothes for oneself and one's

[1] Mitchell, *op. cit.*, p. 54.

wife and family as a dominant factor. Local opportunities for obtaining work are limited, and the need for cash to buy store goods, especially clothes, stimulates migration. Taxation is today a much less significant factor.

The discrepancy between income from traditional payments and expenditure on them may arise from the fact that only one ritual specialist (' witchdoctor ') was included in the sample and he was extremely reticent about disclosing his professional earnings. Fees for curative rituals were a considerable item in the expenditure side of ' traditional payments ', as Table VI shows. This table also gives a detailed breakdown of the income and expenditure patterns for meat, fish and livestock.

TABLE VI

MEAT FOODS AND TRADITIONAL ITEMS

(*without weighting*)

(*a*) MEAT FOODS

Type of Food	*Income*		*Expenditure*	
	Men	*Women*	*Men*	*Women*
	£ *s.* *d.*	*s.* *d.*	£ *s.* *d.*	*s.* *d.*
Meat	10 9	7	7 5	5 0
Fish	16 10	2 4	6 8	2 7
Sheep	7 10	2 2	6 3	—
Goats	3 5	11	2 6	4
Pigs		6	3	—
Fowls	3 4	2 3	9	5
Insects	—	7	1	—
Total	2 2 8	9 4	1 3 11	8 4

(*b*) TRADITIONAL ITEMS

Item	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
Doctoring and Curative Ceremonies	10	3	5 7	1 1
Marriage Payments	—	3	1 9	10
Births	2	3	8	4
Deaths and Funerals	—	2	1 2	1 2
Payments at Girls' Initiation	—	1 4	9	1 2
Payments at Boys' Initiation	—	—	—	3
Total	1 0	2 3	9 11	4 10

Table VII gives a detailed breakdown of income obtained from the sale of crops.

TABLE VII

INCOME FROM CROPS

(*without weighting*)

Type of Crop	*Average*					
	Men			*Women*		
	£	*s.*	*d.*	£	*s.*	*d.*
Cassava		18	10	1	14	9
Rice		6	5		7	4
Maize		4	2		6	0
Potatoes		4	6		2	3
Beans		2	8		2	2
Sweet potatoes		2	1		2	4
Millets		2	1		1	9
Tomatoes		1	3		2	2
Groundnuts		1	6			2
Fruit		1	0			2
Miscellaneous		2	11		2	4
Total	2	7	5	3	1	5

COMPARISON OF BUDGETS IN PEDICLE WITH THOSE FROM OTHER NDEMBU AREAS

We made an attempt to compare the more developed areas close to European centres of settlement and influence with more traditional areas where the indigenous social organization shows a higher degree of persistence, in terms of budgets. Unfortunately, we collected only twelve budgets from these areas, from villages in the areas of the deposed chiefs Ntambu (about 30 miles from the Boma) and Mukangala (about 24 miles from the Boma and an equal distance from the pedicle),[1] where the population is still highly conservative and opposed to change. But we feel that an instructive comparison may still be made.

[1] Both these areas have now been absorbed into that of the Paramount Chief, Kanongesha.

TABLE VIII

AVERAGE BUDGETS OF PEDICLE AND NON-PEDICLE NDEMBU

(*a*) INCOME

Group	*Pedicle*		*Non-Pedicle*		*All Ndembu*		*Total*	
Cases	*Men* 34	*Women* 61	*Men* 5	*Women* 7	*Men* 39	*Women* 68	107	%
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Cassava	17 8	1 6 5	1 0 0	9 3	18 7	1 0 2	19 5	13
Rice	8 9	9 5	—	—	5 3	6 0	5 9	4
Other Crops	1 3 10	16 11	4 4	15 9	16 6	16 6	16 6	10
Total Crops	2 10 3	2 12 9	1 4 4	1 5 0	2 0 4	2 2 8	2 1 8	27
Wages	6 1 5	9	1 4 0	—	4 4 8	6	1 18 4	24
Gifts	10 6	6 8	—	7 5	6 6	6 11	6 9	4
Meat Foods	2 5 6	9 4	1 6 10	1 11	1 18 6	6 8	1 1 0	13
Miscellaneous	1 3 11	1 3 0	1 19 1	8 10	1 9 8	17 10	1 3 1	15
Unaccounted	1 16 8	1 0 8	1 2 7	1 4 10	1 11 5	1 2 2	1 6 4	17
Total	14 8 3	5 13 2	6 16 10	3 8 0	11 11 1	4 16 9	7 17 2	100

(*b*) EXPENDITURE

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	%
Clothing	5 17 8	1 18 7	3 0 5	17 3	4 16 1	1 10 10	3 0 2	38
Utensils	1 0 3	19 2	1 12 0	8 4	1 4 8	15 3	19 6	12
Other Store Goods	1 14 9	14 4	1 9 1	1 11 6	1 12 7	1 0 7	1 6 0	17
Total Store Goods	8 12 8	3 12 1	6 1 6	2 17 1	7 13 4	3 6 8	5 5 8	67
Taxes, etc.	11 3	1 0	3 1	4 2	8 1	2 2	4 10	3
Traditional	12 2	3 8	2 4	5	8 5	2 7	5 2	3
Meat Foods	1 6 11	7 10	3 0	4 5	17 10	6 8	11 8	8
Miscellaneous	1 2 0	10 10	5 7	1 7	15 9	7 2	11 0	7
Unaccounted	2 3 3	17 9	1 4	4	1 7 8	11 6	18 10	12
Total	14 8 3	5 13 2	6 16 10	3 8 0	11 11 1	4 16 9	7 17 2	100

The combined amounts are not weighted by age-groups in Table VIII as there are insufficient cases, but by sex and area as follows :

Area	*Proportion in Whole Population*	
	Men	*Women*
Pedicle chiefdoms	28	35
Non-Pedicle chiefdoms . .	17	20
Total	45	55
Grand Total	100	

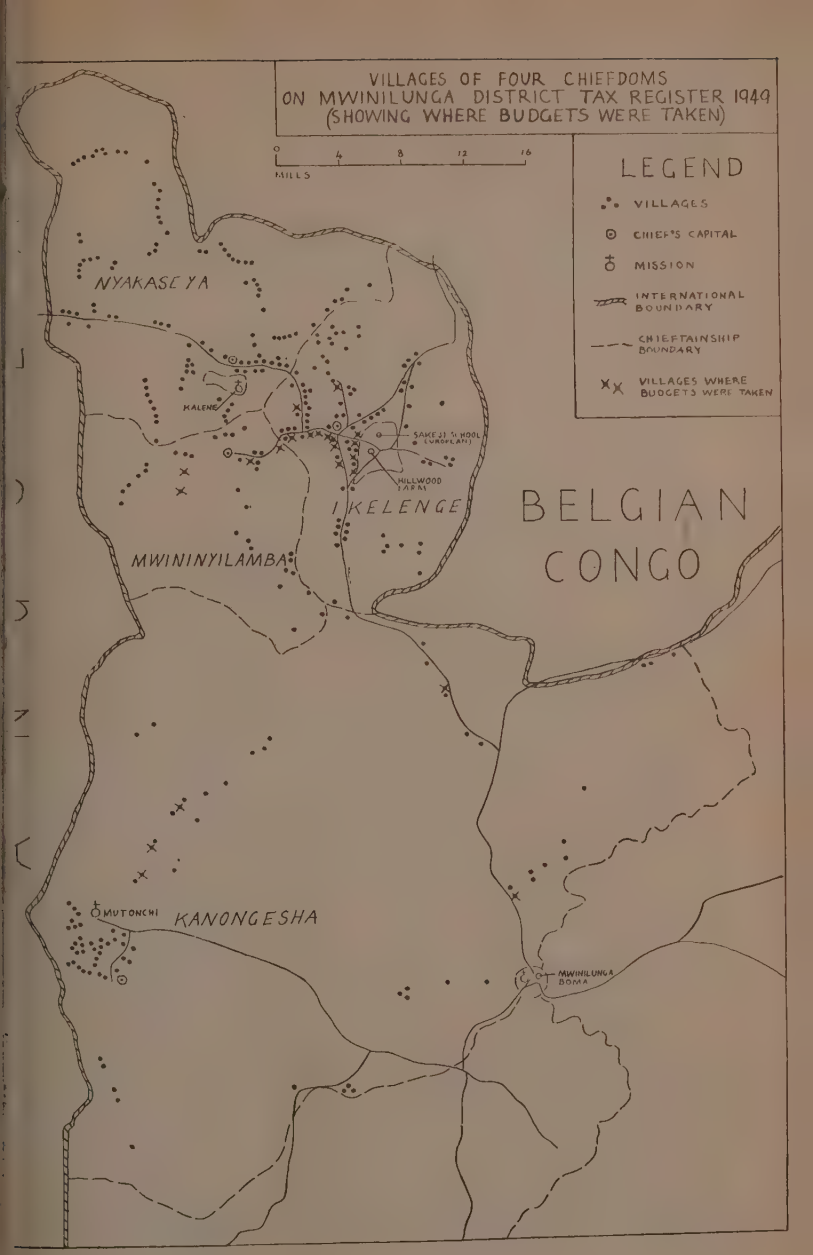
Table VIII compares 95 budgets from the pedicle area with these 12 from other Ndembu areas. Income of pedicle men was more than twice as much as that of men from other areas and of pedicle women nearly twice as much as that of women from other areas. On the other hand whereas both men and women from the pedicle appear to have a credit balance when income and expenditure are compared, the reverse seems to hold good for the other areas. But the comparison in terms of cash budgets alone is misleading. The ' bush ' areas appear from the budgets to be better provided with game meat, since their expenditure on it is proportionately much less than that of their pedicle fellow-tribesmen. On the other hand a greater percentage of the men's income comes from the sale of meat. This meat, we have found from observation, is hawked by hunters to the pedicle and Boma areas. Men in the ' bush ' areas earn less in wages and grow more cassava both relatively and absolutely for sale than in the pedicle. Women earn more from the sale of finger millet and maize (concealed under the rubric of ' other crops ' in the table) than they do for cassava. These grains are sold to the more densely populated areas for the making of beer there. In terms of the old subsistence agriculture and of the highly rated hunting the ' bush ' areas are better off. Ndembu from these areas say, ' In Chief Ikelenge's area (in the pedicle) everything is a matter of buying and selling, with us it is a matter of giving and returning gifts. We have much beer and meat, there they have Kimberley Brick houses and good clothes. But they are hungry and have no beer.' On the other hand people in Chief Ikelenge's area say, ' Those bush people are backward ; they live like goats in their villages and are ragged. They are always in debt. They cannot talk properly to Europeans.' This background of conflict of values arising from social and cultural

change under modern conditions must be borne in mind when the budgets are compared ; and it illuminates the comparison.

CONCLUSION

The small size of the sample, its casual basis, and the many flaws implicit in the collection of annual budgets from the memories of informants, prevent us from drawing any but the most tentative of conclusions. Nevertheless it is still possible to say that in the Mwinilunga Ndembu region at least, social change expressed in terms of the spread of cash economy is not taking place at an even rate nor does it influence all places and sections of the people equally or in the same way. In areas of European settlement new ways of making a living and new patterns of spending are emerging. But outside of these pockets of population concentrated around European nuclei many features of the old subsistence economy, and with it the traditional social organization, still fight a rearguard action against socio-economic change.

In the north-western pedicle of Mwinilunga District the traditional subsistence agriculture is giving way to petty commodity cultivation and hunting is almost extinct. Many men are becoming wage-earners. In the new cash economy men are acquiring an economic supremacy *vis-à-vis* women which they never possessed in the past when the women provided the regular and stable sources of nourishment from their cassava and maize gardens. On the other hand while women continue to retain an independent sphere within the subsistence economy and exercise control over the moneys obtained from the sale of their produce, they have a means of asserting their social independence from their husbands. The sexes are less interdependent than in the past and economic individualism both in production and consumption seems to be the keynote of the new cash economy. This individualism is snapping the traditional ties of extended kinship and breaking up corporate residential groupings such as the village. New social categories based on differential wealth are emerging. I have recorded the budgets of several wealthy traders and although they were careful not to reveal the complete sources and extent of their profits one of them had an annual income of more than £300 and another of more than £100. In 1953 two traders in the pedicle bought lorries to transport produce to the Line-of-Rail. But the social and political consequences of the new economic individualism and social stratification resulting from the growth of cash economy fall outside the scope of this paper.


VILLAGES OF FOUR CHIEFDOMS
ON MWINILUNGA DISTRICT TAX REGISTER 1949
(SHOWING WHERE BUDGETS WERE TAKEN)
0 4 8 12 16
MILES
LEGEND
VILLAGES
CHIEF'S CAPITAL
MISSION
INTERNATIONAL BOUNDARY
CHIEFTAINSHIP BOUNDARY
VILLAGES WHERE BUDGETS WERE TAKEN
NYAKASEYA
KALENE
SAKESU'S KRAAL
(LUCHOLAI)
HILLWOOD FARM
IKELENGE
BELGIAN CONGO
MWININYILAMBA
MUTONCHI
KANONGESHA
MWINILUNGA BOMA

COLONIAL SOCIAL ACCOUNTING

An appreciation of Phyllis Deane's *Colonial Social Accounting*, Cambridge University Press (1953)—50*s*.

by

T. S. TRENT

Part I

The Economies of Northern Rhodesia and Nyasaland

ECONOMIC studies during the twentieth century have emphasized the organic structure of national economies and stressed the interrelationship and mutual interdependence of economic activities. With this new emphasis, it was recognized, at least in the more developed countries, that the scale and tempo of an economy is subject to its governmental policy. Whether the policy involves direct intervention, or indirect influence over private enterprise, or even non-interference, it sets the pace of national economic life. The need for wartime planning and the growth of the welfare state further enhanced governmental responsibility in the economic sphere. Although there is still much controversy about what economic policies should be pursued to achieve a desired end, clearly the government's economic policy greatly affects economic progress, stagnation or decline. Generally nowadays the problem is to say how much active governmental intervention in the economic life of a nation there should be, and not to debate whether a government has a right or duty to interfere in the economy.

But if there is to be an economic policy, a complete picture of the economy should be available. Such a picture should show all the economic transactions in their quantitative importance to allow for comparison over time and place. This very need for a census of all economic activities gave rise to the system of social accounts as we know it today in the United Kingdom. In principle this accounting involves a complete census of transactions and their systematic consolidation into a national balancing system of accounts. This system has by now been accepted in the majority of independent countries and has been approved on an international level by the United Nations Organization.

Phyllis Deane's *Colonial Social Accounting* is an admirable analysis of the problems and difficulties involved in applying the known techniques of social accounting to underdeveloped economies. The merit of her achievement in compiling comprehensible and mean-

ingful accounts for Northern Rhodesia and Nyasaland is greatly enhanced by the complexity of the problem she outlines.

The accounting framework employed in most industrial countries presupposes the use of money. In fact the use of money as a universal measuring-rod of economic transactions in exchange economies has made it possible for countries to agree on a certain standardized form of presentation of social accounts which allows comparison of economic activities between different countries and different periods. Yet it is important to remember first of all, that changes in the national accounts totals may reflect a change in the value of money rather than a change in the volume or nature of economic transactions. Secondly, tastes, social values and preferences vary with time and place, so that differences in the accounting figures need not be taken to indicate differential levels of social welfare. These reservations must be borne in mind when attempting to base a comparison between the levels of economic development in different areas or periods in time on their respective social accounts.

The collection of statistics is no recent innovation in the more developed countries. For instance, in Britain population statistics have been collected since the beginning of the nineteenth century. Thus the social accounts could draw on an established system of statistical recording, and therefore the margin of error on the main totals in the accounts can reasonably be assumed to be no more than 5%. The position in this respect is very much different in Colonial countries. Few, if any, reliable statistics are available. We do not even have reliable data on the size and distribution of the native population. This dearth of economic statistics is an important stumbling-block to economic development. In addition to the qualitative information on the social values and forces in economic behaviour of underdeveloped societies we need a wealth of quantitative data as a basis for development planning. Just as the entrepreneur consults his business accounts before formulating his commercial policy, so it is essential for a government to have social accounts as a guide to national economic policy. In order to raise the standard of living of a people, we must first of all know the present standard of living. Secondly, we must have an account of all available economic resources and their relative contribution to total output.

The system of social accounts established in the more developed countries is designed to show the source, direction and form of the flow of the national income as it circulates through the national economy. The accounts may be presented in a double or triple entry form. The triple entry is the more informative since it shows the three facets of the aggregate economic activities—income, output and expenditure. Net national income consists of all income received by individuals, corporations or governmental bodies in the form of wages, salaries, profits or rent. Net national output

indicates in what industries these incomes are earned. Net national expenditure reflects how the incomes are consumed or invested. Thus each transaction appears three times in the triple entry account: once as part of incomes received, once as it represents the value of a particular kind of goods or service produced, and once as it entered into some form of consumption or investment. Since the tables of output and expenditure are essentially only a re-arrangement of the information contained in the income table, each of the three different tables must produce the same total. The compilation of income, output and expenditure tables shows three different ways of arriving at an estimate of the aggregate value of goods and services produced (or received) in the country during the period under review. The grouping of items in each of the tables will depend on the current problems of the economy. If we find ourselves faced with an economy, such as for instance that of Northern Rhodesia, which consists of different racial groups, each forming an independent economic category, it will be important for the income table to reflect this feature. Thus it will be advisable in this case to show incomes according to racial groups rather than according to the form of incomes, such as wages and profits.

The accuracy of the totals appearing in the social accounts is of course directly related to the accuracy of the basic data. The greater the reliability of the main totals, the clearer will be the picture the social accounts present of the whole economy. In colonial countries economic statistics are scarce and those that are available embody a high margin of error. Therefore social accounts compiled on the basis of existing evidence cannot be expected to supply anything but a blurred, distorted reflection of the respective economy. But provided we always bear in mind the magnitude of the probable error in the main totals of the social accounts, the tables at least show the structure of the whole economy.

The problem involved in colonial social accounting is of a dual nature. First, we encounter a quantitative problem in so far as there is a lack of properly collected data on economic activities to which the known tools of economic analysis may be applied. Secondly, we face a qualitative problem in so far as we are dealing with semi-subsistence economies and can by no means be certain that the economic concepts which have been built up on the basis of money economies are equally applicable to subsistence economies. There are great conceptual difficulties in computing a money value for output which is produced for home consumption, which never enters the stream of trade and which hence never involves a money receipt or payment. The practical difficulties in evaluating subsistence income and output cast considerable doubts on the significance of final national aggregates which include values for subsistence production. But clearly, without these totals the social accounts of semi-subsistence economies would be completely meaningless, because they would exclude a large number of economic activities,

while in developed economies domestic production for home consumption is negligible in the total accounts. Hence from the beginning the social accounts for subsistence economies are obviously far from being satisfactory statistical records. But when a social accounting system is applied to a primitive economy, or to an economy with primitive sections, it does at least take all sectors and aspects of the national economy into account, and it does give some indication of their relative contribution to total national economic activity.

Miss Deane's study is an attempt to deal with both the quantitative and qualitative problem in constructing social accounts for Colonial countries. She presents us first with an economic study of Northern Rhodesia and Nyasaland, which is an indication of what useful information may be derived from existing data. Secondly, she outlines her experiment in making village economic surveys a basis for tribal social accounts. Her experiment can act as a guide to more widespread enquiries and lead to a more efficient general system of colonial social accounting.

Both in Northern Rhodesia and Nyasaland we find three racial groups with distinct standards of living, each with its own characteristic pattern of economic activities. But the three racial groups co-operate in the national economic activities. The population of Northern Rhodesia consisted in 1946 of 21,800 Europeans, 1,115 Asians and 1·73 million Africans. The indigenous population had never been counted and the estimates were based on tax-payers' registers, corrected where possible by sample counts. 92% of the European population lives on a narrow strip of land along the railway-line whilst about 66% of the African population resides in the outer areas. For the majority of these Africans living away from the railway belt it is cheaper and easier to become migrants and sell their labour, rather than to transport products for sale.

Europeans are mainly engaged in the mines and the public services. 38% of the Europeans are engaged in the mines, 20% in the public services, 12% in commerce, 10% in transport and only 7% in agriculture. There are two noticeable trends in the European population since the last war. First, there is an increasing proportion of immigrants from South Africa. Secondly, there is a growing indigenous European population. But the majority of Europeans still retire abroad. The standard of living of Europeans is high compared with that in Britain. Average income per European income recipient is estimated at £600 per annum.

The Asian community is also immigrant with most of its members retiring abroad. Asians are primarily engaged in trade. Since most of them are individual traders who keep no business accounts, it is difficult to get any reliable information on their turnover and profits. Therefore it has been impossible so far to assess their income and expenditure.

For the African community it was estimated that total income

consists of about 54% subsistence and 46% cash income. The estimate of subsistence income was based on information supplied by agricultural officers on the level of agricultural output and the volume of cash sales of home-produced agricultural products. The estimates were cross-checked against consumption data and adjusted where necessary. About one-third of all African incomes is earned in employment, and most of it in urban areas. But only 10% of the African population lives in urban areas. The discrepancy between the distribution of African population and income between urban and rural areas points to a big gap in the income levels between urban and rural population. But there is much less variation in the respective standard of living, than there is in income levels, because gifts, marriage and other transfer payments act as channels for the redistribution of income.

The villagers' standard of living is largely determined by the mere necessities of life, rather than by the possession of semi-luxuries or luxuries. The standard of living therefore depends primarily on the level of agricultural output. The greater part of Northern Rhodesia is covered by poor soil, cultivated by a number of African systems based on the hoe. The Agricultural Department reports that both cultivated acreage and yields are low. The average is one acre per head of population and three bags of maize per acre is regarded as a good yield.[1] More than half of the country is still infested with tsetse fly and therefore devoid of all livestock. In many areas as many as 50% of the able-bodied males are away at work. The bulk of the work in crop cultivation is left to the women, helped by children and returned labour migrants. Most of the cultivated crop is for home consumption and never enters barter or trade. For 1945 it was estimated that only 10% of all crops were traded. The agricultural picture of Northern Rhodesia seen from the African angle is one of poor soil and soil deterioration, lack of transport facilities in all areas outside the railway belt, and a very restricted range of natural resources in all areas except the Central Barotse Plain. The low standard of living of the African population is reflected in a high vulnerability to disease, high infant mortality rates, and low productivity.

Yet the development of the Northern Rhodesian economy has been considerable. In the ten years between 1938 and 1948 the geographical national product, expressed in money terms, has almost trebled. But the development has been highly concentrated in the mining industries of the copper belt. The rest of the country had little share in the prosperity of the mines. A large part of incomes earned in Northern Rhodesia goes to companies financed from abroad. This is a characteristic feature of dependent economies. In order to have meaningful social accounts it is of course necessary to reflect this dependency in the accounting system. In such cases it becomes important to distinguish between national accounts

[1] This is not unsatisfactory for Southern Africa.

which show the sum total of all the goods and services produced by a country's nationals, and territorial accounts which indicate the sum total of all the goods and services produced within the boundaries of the country under review (see Tables I and II). In the case of Northern Rhodesia, the income of companies financed from abroad is included in the territorial accounts but does not appear in the national accounts. The size of the gap between the territorial and national income indicates in fact the dependence of an economy on factors of production from outside its boundaries.

The change in the distribution of the national product between 1945 and 1948 reflects the lopsided development of the Northern Rhodesian economy (see Table III). The European share of the national income increased from 32% to 40% while that of the Africans fell from 55% to 44%. The highly concentrated development becomes even more evident when we examine the change in the distribution of the territorial product between 1945 and 1948. The share of individual Europeans remained stable at 26%, the African share fell from 46% to 29½% and that of the companies increased from 24½% to 42%. The major part of the companies' profits is remitted to shareholders abroad which results in an acute shortage of funds for investment within Northern Rhodesia. If economic development of Central Africa is to be rescued from its narrow channel of European industrialization, the need for more research into actual and potential sources of African savings and avenues for African investment, involving sufficient family budget surveys to allow generalization, becomes vitally important.

The highly concentrated development of the mining industries not only increased Northern Rhodesia's dependence on foreign capital but it also increased the economy's vulnerability to economic fluctuations outside its boundaries. The economic progress of Northern Rhodesia is now tied to movements in the world prices of copper. The slump in copper prices at the beginning of the 1930's had a serious effect on the whole economy. Since then the share of the mines in territorial production has grown considerably. A serious fall in copper prices now would obviously have an even more disastrous repercussion on the whole economy. Thus a more dispersed industrial development seems desirable, but this is by no means the major problem of development. The standard of living of the indigenous population is not automatically raised by an expansion of mining or secondary industries. Agriculture makes the second biggest contribution to the national product and subsistence output forms still the major part of rural incomes. The key to the increase in real income of the native population is higher productivity of the African farming population. Income estimates for 1947 calculated a yearly total of £4 16*s.* per head of African rural population. Of this, rather more than £3 per head was accounted for by subsistence output. African urban income amounted to about £16 to £17 per year per head of population.

TABLE I

NATIONAL (RESIDENTS') INCOME, OUTPUT AND OUTLAY OF NORTHERN RHODESIA, 1938 AND 1945 (p. 63)

(in thousands of pounds)

Residents' incomes	*1938*	*1945*	*Residents' output*	*1938*	*1945*	*Residents' outlay*	*1938*	*1945*
Incomes of :			Net output of :			Personal consumption :		
1. European individuals and local companies .	4,071	5,916	6. Mining	2,484	3,908	14. Cash expenditure at market price . . .	4,627	9,109
2. Other non-Africans .	74	325	7. Agriculture and livestock	2,000	5,590	15. Less indirect taxes .	−465	−799
3. Africans	3,529	10,270	8. Manufacture, building, forestry . . .	321	1,400	16. Plus subsidies . .	—	136
4. Government (including receipts from foreign taxpayers)	820	1,989	9. Distribution and transport	1,304	1,659	17. Domestic cash expenditure at factor cost .	4,162	8,446
			10. Government . . .	627	1,645	18. Subsistence consumption	1,891	4,734
			11. Income from abroad (including income tax)	784	2,397	19. Expenditure abroad by individuals . .	774	1,482
			12. Other goods and services	974	1,901	20. Total personal consumption	6,827	14,662
						21. Government current expenditure at home and abroad . . .	1,345	2,080
						22. Investment and saving	322	1,758
5. Total national income	8,494	18,500	13. Total national output	8,494	18,500	23. Total national outlay	8,494	18,500

The disparity between urban and rural real incomes, though considerable, is not as great as the gap between the money income levels may indicate, because the money cost of living in the towns is much higher than that in the villages. Average African yearly income per head of population in urban and rural areas, including subsistence income, is estimated for 1948 to have been between £6 and £7 in Northern Rhodesia and about £5 in Nyasaland.

Nyasaland's population at the 1945 census consisted of 2,044,707 Africans, 1,948 Europeans, 2,804 Asians and 455 other non-Africans. Nyasaland has practically no large towns and her population is therefore on the whole a rural population. The European population has remained fairly stable over the last twenty years. Most of the Europeans are engaged in trade and secondary industries. Their average annual income is higher than that in Northern Rhodesia and amounts to £735 per income recipient. The Europeans, like the Asians, are an immigrant population with a high turnover, although in both cases there are signs of a growing indigenous group. Asians are mainly engaged in trade, commerce and service industries. The average income for the whole Indian community was estimated to be rather more than £460 per annum per man earning. Indian women's earnings are neglible. But there is a wide variation in Indian incomes ranging from a shop assistant's yearly income of £75 to traders' incomes of £1,600 and more. It is interesting to note the thrift and enterprise of the Indian community. For 1945 it was estimated that more than 47% of the total income received by Asians was saved or invested or remitted abroad.

The African with an average annual income of £5 per head falls well below the standard of living of the European and Asian population. The pattern of expenditure of African households appears to be fairly uniform over the whole of Central Africa. About 60% of the income is spent on food, drink and tobacco, about 25% on clothing and footwear, and the rest on household goods. So far it has been impossible to collect any evidence on African savings.

Nyasaland has practically no mining or secondary industries. Consequently foreign investment plays an insignificant part and accordingly there is very little difference between the territorial and the national products. Tertiary industries contribute about 40%, and agriculture 50%, to the total national output. Cotton and tobacco are the two major cash crops. In 1945 cotton and tobacco made up 75% of the income from cash crops and in more recent years the percentage has risen to about 90%. The flourishing world prices of cotton and tobacco in post-war years have increased the wealth of the Southern Province, the main exporting area of these crops in Nyasaland. Prior to the last war the lack of economic opportunities in Nyasaland was a major incentive to labour migration. The big post-war demand for cotton and tobacco increased the possibilities for employment within Nyasaland. In fact the

TABLE II

NATIONAL (TERRITORIAL) INCOME, OUTPUT AND OUTLAY OF NORTHERN RHODESIA, 1938 AND 1945 (p. 64)

(*in thousands of pounds*)

Territorial income	*1938*	*1945*	*Territorial output*	*1938*	*1945*	*Territorial outlay*	*1938*	*1945*
Incomes of :			Net output of :			Personal cash expenditure on :		
1. European individuals	3,768	5,666	7. Mining	7,353	7,417	18. Food, drink, and tobacco	1,937	3,781
2. Other non-Africans	74	325	8. Agriculture and livestock (*a*) European	197	600	19. Clothing, footwear, etc.	1,079	2,835
3. Africans	3,529	10,270	(*b*) African	1,803	4,990	20. Other local produce	1,611	2,493
4. Companies	5,954	5,400	9. Forestry and sawmilling	200	970	21. Total at market price	4,627	9,109
5. Government	175	339	10. Manufacture and building	121	450	22. Less indirect taxes	−465	−799
			11. African village industries and miscellaneous independent work	206	896	23. Plus subsidies	—	136
			12. Distribution	745	2,072	24. Total at factor cost	4,162	8,446
			13. Transport	1,066	1,148	25. Subsistence consumption	1,891	4,734
			14. Government	899	1,645	26. Government current expenditure	973	1,689
			15. Miscellaneous services	771	1,060	27. Expenditure abroad by (*a*) Individuals	774	1,482
			16. Income from abroad	139	752	(*b*) Government	272	391
						28. Investment, saving, and remittances abroad by non-resident companies	5,428	5,258
6. Total territorial incomes	13,500	22,000	17. Total territorial output	13,500	22,000	29. Total territorial outlay	13,500	22,000

expansion of European agriculture became limited by a shortage of labour. But the employment opportunities occurred in the Southern Province, whereas the Northern Province was the main reservoir for labour migrants. There are signs that the number of labour migrants to areas outside Nyasaland has decreased, which may be an indication of a growing migration from the Northern to the Southern Provinces. Yet there is still the great attraction to travel further afield, although wages offered by European farmers have greatly increased and compare now favourably with the wages paid in Southern Rhodesia or on the copperbelt. The attraction may be attributed to a greater variety of employment and the greater availability of semi-durable goods, such as bicycles and sewing machines, in Northern and Southern Rhodesia and particularly in South Africa. The proportion of labour migration varies greatly between areas. In some villages in the far north where there are few local opportunities for economic advancement the proportion of labour migration is highest. Probably the average for all Nyasaland of males away in employment is about 50% of the total male population.

The gain in the form of cash or goods remitted or brought back to Nyasaland by migrant labour amounts to about 10% of national income. This benefit, however, must be set against the fall in rural living standards resulting from a reduction in subsistence output due to the absence of able-bodied males. However, unless Nyasaland could develop primary or secondary industries to a considerable extent, which seems unlikely because of her limited natural resources and limited home market, the standard of living of the indigenous population can only be raised by an expansion of agricultural output through higher productivity per worker. This could be achieved by increasing the acreage under cultivation and/or increasing the productivity per cultivated acre. Whilst the man's rôle as chief cash-earner is becoming more important, the woman is still the main food producer. Therefore the problem is how to increase the productivity of female labour in agriculture. But it is obviously difficult to increase the area under cultivation without more male help, since this may be beyond the physical capacity of women. The available information suggests that the average cultivated acreage per head is slightly less than one acre which is very much the same as was noted in Northern Rhodesia, except in the densely populated areas of the Southern Province. Yields on an average seem to be slightly higher than in Northern Rhodesia. Farming equipment might help to raise output per worker, but its acquisition requires savings and investment in tools. It has often been suggested that the savings of the Africans are hoarded rather than invested. In 1946 African cash incomes in Nyasaland were swollen by army gratuities, but the internal price level had also risen in sympathy with import and export prices. Therefore there was a need for a larger volume of currency to

sustain the same volume of trade. Probably, the higher cash incomes also induced a greater volume of inter-African trade by increased output and a diversion from subsistence to trade. The returned soldier in most cases did not hoard his army gratuity but spent it on the acquisition of a wife, bought some clothing, and perhaps had a brick house built and some furniture made. A strong preference for a higher standard of living, rather than money hoards, swallowed up the necessary savings for investment in farming equipment.

Nyasaland's national income is thinly distributed over the whole

TABLE III

CHANGES IN DISTRIBUTION OF NATIONAL PRODUCT, 1938–48 (p. 65)

(*in percentages*)

	1938	*1945*	*1948*
(*a*) *Residents' incomes*	%	%	%
1. European individuals and local companies	48	32	40
2. Other non-Africans	1	1½	2
3. Africans	41½	55½	44
4. Government (including receipts from non-resident taxpayers)	9½	11	14
5. Total national income	100	100	100
(*b*) *Territorial incomes*			
1. European individuals	28	26	26
2. Other non-Africans	½	1½	1½
3. Africans	26	46½	29½
4. Companies	44	24½	42
5. Government	1½	1½	1
6. Total geographical product	100	100	100

population. The African share amounts to 78% of the total income in 1945, that of the Europeans to 10%, all other non-Africans received 8%, and 4% went to companies. The African share of the national income has increased from 71% to 78% between 1938 and 1945. The change in the income distribution is reflected first of all in a higher proportion of expenditure devoted to personal consumption and secondly in a reduction of the government's share of the national income. In effect while the African share in the national income has been rising the African percentage contribution

to the public revenue has been falling. The bulk of Nyasaland's national income flows to its indigenous population, consequently the capital resources for its economic development must be largely provided by Africans unless it wants to rely on foreign investment or aid. Thus, if African voluntary savings are not forthcoming for the financing of the essential investment, the government will have to devise a system of taxation to tap African incomes for the purpose of development. However, it is quite certain that the need for free grants in aid from the United Kingdom will continue for a considerable period, even if all sources of indigenous investment are exploited. Lack of knowledge on the part of the planners is an obstacle to development even greater than lack of investment. Much more technical, economic and social research is required to elucidate methods to induce a satisfactory rate of economic progress in Nyasaland.

In the process of perusing the social accounts for Northern Rhodesia and Nyasaland the main features of the economic pattern of these Colonial countries have become apparent. The actual figures in the social accounts must be treated with care, bearing in mind that they may involve a high degree of error. We must also remember that the immediate post-war period during which the totals were compiled was atypical. 'The two years 1945–6 covered the period when the war-induced distortions in the economy reached their peak. This means firstly that the shape of the economy in 1945 is not a particularly useful guide to its shape in more normal times, and secondly that the 1948 figures, which are the results of bringing 1945 estimates up to date in the light of published material available in 1950, may still reflect some of the post-war distortions which were no longer characteristic of the economy' (p. 99). These shortcomings may be important, but they do not seem to be sufficiently serious to invalidate the general picture of the Colonial economies presented by the social accounts. So far as can be judged from the available material collected by anthropologists and agriculturists the conclusions which could be drawn from the figures are a fair reflection of what was actually occurring. One major fact is thrown into relief by the social accounts. Agricultural development is the key to economic progress both in Northern Rhodesia and Nyasaland.

Part II

Village Economic Surveys

The social accounts, both for Northern Rhodesia and Nyasaland, reflect the structure of these Colonial economies, and at the same time illustrate the major inadequacies in the basic data. We have seen that the majority of the indigenous population, well over 80%, lives and works in rural areas and the bulk of rural output is still subsistence. But the value computed for subsistence output had to be based on general information supplied by the Agricultural Department, due to lack of any more specific economic data on rural activities. Whilst it may still be impossible to compile a census of rural output in all areas, it is desirable to carry out at least a series of scientifically planned sample investigations so as to have an idea of the limits of the broad generalizations. The available data on Central African village economies are largely a by-product of anthropological and agricultural research. Since agricultural development is the key to economic progress in Central Africa, it is important to make more specific economic studies of rural activities. Such studies might not only alleviate the scarcity of quantitative data, but also shed light on the qualitative problem, whether social accounting concepts are applicable to subsistence economies. We are by no means certain that the economic theories which seem to regard the use of money and specialization of labour as axiomatic are valid for subsistence economies. The need for socio-economic studies of subsistence communities is great, but so far only comparatively few have been made. Therefore it is of particular interest to consider the methodology of village economic surveys. Miss Deane gives a most illuminating account of her experiment in surveying rural activities. Her study brings out clearly the interrelationship between the social sciences. Tribal village enquiries must necessarily be based on anthropological information. Without the necessary background of sociological data it would be impossible to plan the survey or to frame a schedule of information. 'Marriage customs and payments may be extremely important, and provide the clearest instances of the need for an adequate background of sociological knowledge as a prerequisite of quantitative economic enquiries' (p. 173).

The first step in planning sample village surveys is the selection of the area. Here it is important to remember that Central Africa does not consist of a reasonably homogeneous population, but of a great number of different tribes with different social systems and values. For instance the indigenous population of Northern Rhodesia has been classified into 73 different tribes. Tribal units must thus be considered in the classification of areas. The ideal sample should of course be based on random selection. However, while there is still such an acute shortage of basic data on village

economies and limited time, personnel and technical equipment to complete sample surveys, the ideal of randomness may justifiably be subordinated to convenience. Availability of anthropological, agricultural and other material, accessibility, and co-operation of the people, are important factors to consider in the selection of the sample area. If factors of convenience influence the sample selection, there is of course a danger of bias in the results. For instance accessibility usually means availability of transport facilities and nearness to an exchange economy, and therefore the study of an accessible area will probably not yield a representative picture of the tribal area concerned. Another distortion in the account may be due to the positive attitude of the Africans, which may reflect a particular culture rather than a general system.

Once the area is chosen, alternative methods of enquiry have to be considered. First, informants may be chosen at random over the whole area, without complete coverage of any particular village. This method has the advantage of time and ease of collection and, what is even more important, it evens out the peculiarities of individual villages. Secondly, a few villages may be selected, which for practical purposes can be regarded as ' average ' villages, and a comprehensive study made of them. This second method seems the more desirable because it shows the village as an economic unit.

The next step in the village economic survey is the compilation of a schedule of information. In this connexion the help of the anthropologist is most important to indicate the social values and supply environmental data. The local conditions will of course decide the length and depth of the questionnaire. Collection of budgets per productive and spending unit is probably the most efficient method to census the economic activities of any particular village. The productive and spending units are, however, usually closely interlinked through kin or neighbour ties and it will often prove to be difficult to disentangle them from the web of economic relations. ' The principal difficulty in surveying was that the sleeping household, the eating household, the producing household, and the spending household all represented different combinations and permutations within one wide family group ' (p. 148). Polygamous households and those of single men provide conceptual difficulties which are sometimes impossible to solve except by arbitrary decisions.

Even the most co-operative informant is not fully reliable. His memory is likely to fail him and he will tend to remember better the occurrences which are unusual in his household rather than matters of everyday routine. Thus in a semi-subsistence economy informants may give too much weight to money transactions. The information obtained should therefore be supplemented and checked by observation. Obviously, the more observation is required the longer will the survey take. In any case, the period reviewed should

be long enough to cover an agricultural cycle. For migrant labour the normal budgeting period is longer than one year and this fact must be remembered when assessing data on household expenditure.

Another major difficulty in evaluating rural activities is the lack of generally accepted accurate quantitative measures. This difficulty in fact forms the major obstacle to evaluating output and consumption of subsistence crops. However, with persevering field studies it should be possible to overcome this obstacle by applying the known measurements to the observed output and consumption.

Miss Deane's study of three areas, though it was obviously no more than a token research, contributed greatly to our knowledge on Central African economies. The three areas selected were: first, part of Mazabuka District, inhabited by the Tonga, about fifteen miles from the railway line at Monze; secondly, part of the Ngoni Reserve in Fort Jameson District, about eighteen miles from the township of Fort Jameson; thirdly, part of Loziland within five miles of Mongu on the edge of the Barotse flood plain. The study covered 68 Tonga households, 60 Ngoni households and 13 Lozi households. Each of these tribes has a different ecology. The Tonga land has fertile soil, is free from tsetse fly, and is near enough to the railway line to have an easily accessible market for all surplus maize, livestock, eggs and labour. The Ngoni have only limited opportunities to earn money by selling cash crops or going into local employment. Their major source of cash income is labour migration, usually to areas outside Northern Rhodesia. The Lozi area is prominent for its riches in game, birds and fish, and its fertile soil which allows for cultivation of a great variety of crops. However, the wealth of the area is limited by the dependence on the annual floods and the dearth of local wage-earning opportunities.

The three areas investigated, each with its peculiar economic environment, are not necessarily representative of the whole of Central Africa. Many more enquiries of a similar nature are needed before we can generalize. The accuracy of the results of the research is obviously influenced by the bias in the sample. The Tonga data collected included one chief's village in which the high local employment opportunities were atypical for the whole area. The 60 Ngoni households interviewed included eleven family heads with army gratuities, which probably biased the sample in favour of cash receipts and high expenditure on clothing. The Lozi sample was altogether too small to form the basis for any valid generalization. In spite of the shortcomings and bias in the basic data the survey results show quite clearly the major structural features of the different economies.

The source of the African's cash income varies with his economic environment. The Tonga sell their farming produce for cash, the Ngoni sell their labour for cash. This is evident in the survey results. Of the three sample areas the Tonga have by far the

highest cash receipts from the sale of crops and livestock. In this connexion it is interesting to note that the value of the livestock sold by the Tonga exceeds the value of their crop sales. The Ngoni, on the other hand, obviously have the highest cash income from migrant labour. The Tonga total for income from migrant labour is insignificant and that for the Lozi is unduly high and cannot be taken as reliable. Beer-brewing seems to be an important activity throughout Central Africa, and in the three areas it accounted for a relatively important proportion of cash income from local sources. In some areas beer-brewing for sale is illicit. In such areas it is of course particularly difficult to collect information on cash income from this source. Manufacturing, doctoring and other miscellaneous services form a minor part of the African's cash receipts. The Ngoni totals show the highest return per head from manufactures of all the households interviewed. This is probably a reflection of the Ngoni tendency to invest their army gratuities in clothes, brick houses, furniture and household equipment which demands local craftsmanship. The cash value of the receipts from damages in court cases and marriage payments by no means reflects the total volume of these transactions. Lawsuits, marriage payments and gifts involve payment in kind at least as often as they involve payments in cash.

Viewed from the output side, marriage payments, court damages and fines are really transfer payments. As long as we are only interested in the village or tribal product, transfer payments are of no importance and should be excluded from income totals. But once we seek information on the purchasing power and the distribution of incomes, then gifts, damages, and marriage and other transfer payments must be regarded as significant parts of total income. The lump sum usually involved in transfer payments tend to be memorable and the information collected on these points was probably fairly reliable. Of the three groups investigated the Ngoni have the highest rate of cash gifts expended per household. Gifts for the Ngoni in fact are a form of contributory old age pension. The migrant labourer sends gifts to his elder kin who keep him a place in his home village to which he can then ultimately retire. The Ngoni also show the highest expenditure on clothing compared with the Tonga and Lozi. It seems that most gratuity money was spent on clothing. In spite of the relatively higher command of cash reserves in the form of gratuities not one of the Ngoni households reviewed recorded the purchase of a plough or cultivator, or indeed of any large-scale purchase of productive equipment. The average expenditure of 4·1*s.* per Ngoni household covered mainly small scale items, principally hoes, but also axes and spears. The Tonga total of 9·3*s.* per household was very high in contrast to Ngoni expenditure on productive equipment and showed an appreciable amount of ploughs and cultivators purchased. The Lozi total of 0·9*s.* spent on productive equipment is far too low

to be realistic. This inaccuracy may be attributed to the fact that the total does not include fishing equipment.

But the major part of cash expenditure, money spent on consumption goods and services, is the most difficult to assess. Consumption purchases are routine transactions, often in insignificant quantities, so that it is extremely difficult to compile a reliable record of them. Purchases of productive or household equipment, livestock and clothing stand out in the memory of informants and are therefore much easier and more accurately recorded. This point becomes quite clear in the process of examining household budgets. It was found that where the informant's income was derived from a variety of small unremarkable sales while his expenditure consisted of occasional important and necessary purchases, the expenditure records tended to outweigh the income records. On the other hand, where the informant had a relatively high cash income as a wage-earner and spent most of it on consumption purchases, the expenditure records usually fell short of income records. With the guidance of anthropological knowledge of the particular society under review, it will be possible to adjust the collected data to balance income and expenditure figures. In most cases it will probably be advisable and justified to adjust the budgets to whichever is the higher recorded total, income or expenditure. Estimates of average yearly income and expenditure per Tonga household amounted to £8·2, per Lozi household to £7·5 and per Ngoni household including gratuity families to £10·3 and excluding gratuity families to £5·7 (see Table IV). But we must remember that the estimated averages do not represent the 'average' household's income. The calculated averages depend on the range and frequency of incomes, whereas the 'average' household's income depends on the frequency distribution of incomes. The estimated distribution of incomes for the Ngoni (excluding gratuity households), Tonga and Lozi indicate that 6% of the Ngoni households and only 1% of the Tonga households had no cash income at all. Practically none of the households interviewed had a cash income of over £30. 72% of the Ngoni, 71% of the Lozi, but only 59% of the Tonga households showed a cash income of less than £6. The greater percentage of Tonga households in the higher income groups may be taken to indicate a higher standard of living. This hypothesis is supported by the fact that the Tonga households own a much greater variety of household and farming goods than the Ngoni or Lozi. More than 75% of the Tonga had beds and more than 50% had ploughs of their own. Not a single one of the Ngoni households questioned possessed a plough and less than 50% owned their own mortars and pounders, although these are necessary pieces of equipment for any woman. The deficiency in household equipment is usually remedied by borrowing from kin and neighbours. On the whole there is very little household property among the Tonga, Lozi and Ngoni. Only a few articles were found to

be in the possession of more than 75% of the households in all three areas.

Property may be acquired in one of several ways. It may be made within the household, it may be got by barter or gift, or it may be purchased against cash. In order to express in one total the property acquired through these different channels a money value for gift, barter and self-produced property has to be computed. For the property bought the purchasing price may be taken as an indication of the value, whereas self-produced, donated, and bartered property is probably best evaluated at the average price for all the recorded transactions in that particular article for the area concerned. The estimated average value of property owned amounts to £15·5 per Tonga household, £11·8 per Lozi household and £13·1 per Ngoni household. Considering the relatively high cash resources of the Ngoni their average wealth is exceedingly low. They have less self-produced property than the Tonga, which reflects the loss to village economies through the absence of a large proportion of their able-bodied males. Although the cash gifts from labour migrants circulated through the villages, the money seems to be dissipated rapidly in current consumption rather than invested in property. The fact that direct consumption needs still surpass the desire for increased wealth is another illustration of the existence of poverty among the Ngoni families.

The distribution of property is more even than that of annual cash income both among the Ngoni and Tonga. There are no families with no property at all and few with property worth less than £6 or more than £30. The more even wealth distribution may reflect on the one hand the tendency for persons with higher incomes to spend more on consumption goods such as beer, tobacco, soap and transport ; on the other hand, it may indicate that differences in annual cash income are re-distributed by way of gifts, rather than used to form the basis for wealth differentials.

The estimates of average income and expenditure household budgets, with the emphasis on money transactions for economies which are wholly or partially subsistence, tell only part of the story and give a garbled picture. For the calculation of the total product we need to know the relative importance of cash transactions, barter and subsistence output in the total volume of economic activities. Subsistence and barter activities may consist of many small and ephemeral transactions, which are tedious to record and often entirely unconnected with current exchange values. But the sum of all these heterogeneous transactions may be of great importance to the economy. Whilst the limited time available for field research may make it impossible to collect reasonably reliable data on total subsistence output, some idea of its relative importance may be obtained by examining the relationship between barter, subsistence and cash property. It is much easier to collect information on the source of durable and semi-durable articles actually

in the household at the time of enquiry, than to find out the source of all current consumption goods.

Miss Deane's enquiries into the source of property yielded much interesting qualitative information on the localization of village industries, the extent of inter-village trade, and dependence on European stores or African pedlars. The collected data gave also a quantitative illustration of the relative importance of subsistence output, barter exchange and gifts as a source of wealth. In order to compare these totals it is of course necessary to impute money values for the non-monetary transactions. Miss Deane established a system for assessing the money value of these transactions. Hers is no doubt an arbitrary method, but it is one that at least gave some basis for comparison between the different forms of activity. 'To each commodity was ascribed the average price of the whole series of cash transactions recorded for that commodity in the area concerned. Thus if a man received an overcoat in exchange for a cow, the transaction was valued at the average price for all transactions in overcoats that were recorded in his area' (p. 196). The crudeness of the system of evaluation obviously reduces the reliability and significance of the information, but some tentative comments may be made on the results of this investigation. Only 61% of the property held by Ngoni households, excluding gratuity families, was bought, whereas the total amounted to 70% for the Tonga and 79% for the Lozi. Significantly, the percentage of donated property is highest among the Ngoni, namely 21%, whilst it is only 9% among the Tonga and 14% among the Lozi. The smaller percentage of donated property among the Tonga is not necessarily an indication of a smaller volume of gifts as a source of wealth. The balance is probably redressed by a greater volume of cash gifts, part of which may be used for buying property. The high percentage of bought articles in the Lozi household coupled with a low percentage of barter and subsistence products reflects a greater degree of specialization and probably also a bigger volume of inter-African trade. These are only tentative remarks which may be disqualified by the bias and smallness of the Lozi sample. Yet qualitative anthropological information seems to bear out the quantitative observation.

The quantitative relationship between donated, bartered, self-produced and bought property could lead to an estimate of total monetary and non-monetary income, provided we could apply the observed property proportions to total output. But it would be a completely arbitrary method and quite unreasonable to assume that subsistence consumption bears the same relationship to cash consumption as subsistence property to cash property. The share of home-produced consumer goods in total output is probably much bigger than that of subsistence property in total property. The evaluation of subsistence crops must be relegated to more prolonged and detailed field studies. In the meantime we may get

a better idea of the total value of barter and subsistence output (excluding subsistence crops) if we make the assumption, which though arbitrary seems quite reasonable, that ' barter and subsistence income have the same relation to cash income as barter and subsistence property to cash property ' (p. 198). The estimate of monetary and non-monetary income (excluding subsistence crops) amounted to £7·8 per Ngoni household (excluding gratuity families), and to £9·7 per Tonga household (see Table V). The income of the Ngoni consists of 68% cash transactions, 10% subsistence output and 17% gifts. The Tonga income is made up of 73% cash, 12% subsistence and 13% gifts. Although the figures are based on arbitrary assumption it is interesting to note that the proportions for each source of income are roughly of the same order of magnitude for both groups. The Lozi sample was altogether too small to allow even a very tentative computation of total incomes.

The experiment in village economic surveying yielded much interesting information on the way rural cash incomes are earned and spent, but it failed to outline the quantitative importance of subsistence consumption. Only if we are prepared to confine our definition of economic activity to cash transactions can we regard the survey results as a basis for some general conclusions on the income levels in the areas in which the enquiries were conducted. We may of course argue that money transactions are becoming increasingly important and therefore the problem of evaluating subsistence output would disappear with time. The man's contribution as chief cash-earner is no doubt becoming more and more important as the money economy expands and an increasing quantity of goods are produced for exchange. But the bulk of the African's food is still produced by unpaid female and child labour ; and it is the contribution of these subsistence producers which largely determines the standard of living of the indigenous population. As long as we lack properly collected and assessed data on subsistence output, it will be impossible to record with any accuracy changes in the standard of living and therefore impossible to judge the success of any policy aimed at rural development. Yet agricultural development is the key to economic progress in Central Africa. 88% of the population of Northern Rhodesia and Nyasaland are actually still resident in the villages. ' Within the villages the production of goods for personal and family consumption is the main object of economic activity ' (p. 224). The basic needs of the villagers can be satisfied by subsistence production. The only essential which demands money is clothing. Money is important in village social life, but it is desired as a means to supplement the basic requirements rather than to provide them. The African's pattern of wants does not change immediately new economic opportunities come within his reach. Whilst money transactions are the exception and subsistence output the rule, the demand for money is limited by the range of wants which it is

meant to satisfy. 'When money is plentiful in relation to the supply of goods, the urge to earn more is weak. When it is scarce the demand is strong—strong enough to send workers hundreds of miles on foot to work unwontedly long hours in mines and factories. Having reached that limit the workers return to their villages and drift back into the traditional rhythm of the subsistence economy until the money, being spent, is scarce again' (p. 225). The alternative to working for money to acquire more goods is to have more leisure. Wherever there is a strong preference for leisure, it will be substituted for more goods. But economic progress which took the form of more leisure rather than of higher standards of living would not be reflected in any of the social accounting tables. We still lack a scientific method of evaluating subsistence output and social welfare. These are great shortcomings in Colonial social accounting. Much more social and economic research will have to be completed before these deficiencies in our knowledge can be eliminated.

Miss Deane suggests a three-stage process to compile Colonial social accounts. Firstly, village social accounts should be completed to indicate how the average village household received and spent its total income in cash and kind. The experiment of village economic surveys illustrates the difficulties in calculating village accounts. Even in a cash economy there is a considerable amount of unpaid labour which never enters the social accounts; for instance the housewife's contribution is not evaluated and is excluded from income calculation. In semi-subsistence economies it is considerably more difficult to draw the line between economic and non-economic activities, and to decide which of the things people make or do for themselves should be included in the accounts. To include only those transactions which have an ascertainable price would be an arbitrary distinction and may exclude a bulk of important economic activities. Persevering fieldwork over extensive periods seems to be the only solution to the fundamental problem of assessing subsistence output. Without meaningful evaluation of total subsistence output the social accounts for underdeveloped countries will give a misleading picture by putting proportionately too much emphasis on cash transactions.

Secondly, national accounts incorporating the village social accounts should be compiled to indicate the relative contribution to total output of the different types of economic activities and show the distribution of the national income between the different racial groups.

Thirdly, the national accounts should be readjusted to show a complete record of all economic activities performed within the Territory's border or benefiting the Territory's nationals.

The hierarchical structure of this system of Colonial social accounts, of which the village surveys are the basic pillars, emphasizes the importance of scientifically planned intensive field studies of

village economies. To understand the intricacies of Colonial development and to illustrate the effects of current economic policy in these areas, requires a comprehensive review of rural economic transactions in money and kind.

TABLE IV

ESTIMATES OF AVERAGE INCOME AND EXPENDITURE FOR 141 HOUSEHOLDS (p. 189)

	Ngoni including gratuity families 60 households £ per household	*Ngoni excluding gratuity families* 49 households £ per household	*Tonga* 68 households £ per household	*Lozi* 13 households £ per household
Income				
Sale of:				
1. Crops	0·6	0·7	2·1	3·3
2. Livestock and products	0·7	0·7	1·9	
3. Beer	0·3	0·3	0·1	0·8
4. Manufactures	0·4	0·4	0·2	0·01
Receipts from:				
5. Migrant labour	0·4	0·4	—	0·8
6. Employment	2·4	2·6	2·9	0·2
7. Miscellaneous services and all other	0·1	0·1	0·3	2·2
8. Gifts	0·1	0·4	0·6	0·2
9. Gratuities	2·7	—	—	—
10. Damages and marriage payments	0·1	0·02	0·1	—
11. Dis-saving	2·5	0·06	—	—
12. *Total estimated income*	10·3	5·7	8·2	7·5
Expenditure				
13. Clothing, blankets, etc.	3·8	2·5	2·9	3·3
14. Store goods not included elsewhere	0·9	0·8	(inciuded in item 18)	
15. Household and productive equipment	0·9	0·7	1·0	0·7
16. Livestock	0·8	0·1	0·8	—
17. Food	0·4	0·3	2·6	3·3
18. Miscellaneous other	0·5	0·4		
19. Transfer payments*	0·9	0·4	0·9	0·2
20. Saving	2·1	0·5	—	—
21. *Total estimated expenditure*	10·3	5·7	8·2	7·5

* Taxes, fines, damages, marriage payments, gifts.

TABLE V

ESTIMATE OF MONETARY AND NON-MONETARY INCOME (p. 198)

	Ngoni (excluding gratuity families) value per household		*Tonga value per household*	
	£	%	£	%
Cash	5·3	68	7·1	73
Barter	0·4	5	0·1	2
Subsistence	0·8	10	1·2	12
Gift	1·3	17	1·3	13
Total incomes (excluding subsistence crops)	7·8	100	9·7	100

BOOK REVIEWS

Manual of a Thematic Apperception Test for African Subjects. By S. G. Lee. University of Natal Press (Pietermaritzburg, 1953) pp. ii + 42 (twenty-one test pictures and one blank test card in separate package).

In Mr. Lee's words, in a Thematic Apperception Test [T.A.T.], 'the subject is presented with a series of evocative stimulus pictures, and is required to tell his own set of stories about them. The subject is thus forced to interpret certain ambiguous pictured situations in his own way.' He goes on to say that 'the way he performs this act must of necessity reflect his own personality structure—for it is humanly impossible for anyone to write a story completely outside his own experience, with its resultant wishes, attitudes and standards of values'.

Mr. Lee has produced twenty-one such 'evocative stimulus pictures', based on the fantasies of a group of Bantu inmates in a mental hospital in South Africa. These pictures are for use with Bantu in South Africa. The situations in the pictures embrace both rural and urban settings, are suitable for use with subjects aged 12 to 50 and for both educated and uneducated subjects. Mr. Lee used these pictures on 140 subjects and gives us some of his results in this manual, though not in quantitative terms.

Mr. Lee points out in his preface that of all 'projective techniques the T.A.T. is probably the one whose results are most liable to distortion by the operation of cultural differences'. This particular variation of the test was designed originally to be used with Zulu subjects, but Mr. Lee found that the minor cultural differences among other South African peoples made little difference to the expression of individual personality patterns. Mr. H. J. Squires of the Northern Rhodesian Department of Welfare and Probation Services tried these pictures out on a number of local Africans but found that the distinct cultural bias to the pictures, particularly in the dress of the figures in rural areas, evoked responses of marked hostility. This is no more than to be expected: it bears out Mr. Lee's point. But it does raise the point about how T.A.T.s are going to be used in personality studies in communities undergoing rapid change as in Southern Africa. In fact in these communities the standards of values that Mr. Lee speaks about are by no means clear cut and unequivocal, so that the sets of pictures may have to be standardized for many different groups, representing those at one extreme who still subscribe to traditional tribal culture, and those at the other extreme who use the Europeans as a 'reference group'.

The T.A.T. is a flexible instrument. Mr. Lee suggests that the picture interpretations might be analysed in five regions of interest.

1. The region of the self.
2. The region of the family.
3. The region of social relationships.
4. The region of work.
5. The region of race relations.

Much of the interesting material that is likely to emerge from the use of T.A.T.s among educated Africans is the evidence of the internationalization of the frustrations and hostilities which are part of a multi-racial society. Mr. Lee finds it necessary, for example, to extend the standard Murray list of needs by three more :

1. The need to emulate the White man.
2. Nostalgia for old custom.
3. Hostility to White men.

Mr. Lee deliberately tried to avoid the intrusion of race relations into his test : on the basis of his experience he advises the use of an African tester and of group tests, where possible, so as to allow greater freedom of expression. In none of the test pictures is there a White man depicted though several subjects interpreted an ambiguous figure to be a White woman. Nevertheless the White man was present by implication in many of the interpretations he quotes. It seems to me mistaken to ignore what is apparently a significant element in the psychological make-up of Africans, and future workers might find it useful to follow Ombredane's example and include pictures in which typical situations where Black-White relationships are involved or relationships involving people in positions in industrial society.[1]

It is clear that the possibilities of the T.A.T. as a research instrument in changing societies have yet to be explored. Workers in this field outside South Africa will have to devise their own set of pictures, but Mr. Lee's manual has provided a valuable set of leads for them to follow up.

J. Clyde Mitchell.

Study on Adoption of Children : A Study on the Practice and Procedures related to the Adoption of Children. United Nations Department of Social Affairs (New York, 1953), pp. 104.

Adoption is one of the forms of care available to children deprived of a normal home life. It is, without doubt, the most complete

[1] Ombredane, A. *L'exploration de la mentalité de Noirs congolais au moyen d'une épreuve projective. Le Congo T.A.T.* Mémoire de l'Institut Royal Colonial Belge, xxxviii, 5 (1954). Fig. 16 shows a White man with two Africans apparently running away from him ; Fig. 17 shows an African clerk reading a letter ; Fig. 18 shows two African builders in conversation.

step which can be taken to remedy ' homelessness ' in children as it aims to replace the child's natural parents and to make him feel as much part of his adoptive family as he would his own. Because of its deep significance in the life of the child and also its importance to both the natural and adoptive parents, adoption should be closely allied to the most modern principles and practices of child care. This the study under review undertakes to do by presenting a comprehensive, though concise picture of the adoption laws and practices which obtain in a number of countries throughout the world, and by relating them to current principles and theory underlying adoption. Perhaps the most significant feature of the study is this relationship between the theory and practice of adoption in the countries studied and the degree to which practice still falls short of modern principles in many of them.

Much of the study is devoted to setting out these modern principles in considerable detail and relating them to the underlying theme which is that the interests of the child are paramount.

The study, which was conducted under the auspices of the United Nations in conjunction with the International Union for Child Welfare, Geneva, is designed to cover countries whose legal systems and social and cultural patterns differ. It includes Denmark, France, Greece, Poland, Switzerland, the United Kingdom, U.S.S.R., Yugoslavia ; Quebec, Ontario, Saskatchewan in Canada ; Alabama, California, Michigan and New York in the U.S.A. ; as well as Argentina, Bolivia, Guatemala, Peru and Uruguay in South America. It is interesting to note that despite the relative backwardness of some countries in the field of adoption, since World War II there has been a general marked trend towards modern principles which are centred almost exclusively round the interests of the individual child. In the past, in many countries, too little attention has been paid to the interests of the child to be adopted and too much importance has been attached to the requirements of the adopters. Even today, in some countries, the value given to the economic suitability of the adoptive family tends to outweigh that given to the far more important spiritual and emotional factors in the parent-child relationship. But, on the whole, the pendulum is swinging away from the interests of the adoptive parents and towards those of the child.

The study focuses attention on certain fundamentals underlying modern adoption practice. Very important is the choice of a suitable home for the child by specially trained personnel in order that the interests of the child may be fully safeguarded. As yet very few countries have these fully trained personnel available. It is also important that thought be given to the age of the child to be adopted in relation to the ages of other children in the adoptive family, and to the adoptive parents, to ensure that the family environment of which the child will become a part will be as closely akin to that of a normal family as possible. Furthermore, it is

preferable that a child be adopted by a married couple rather than by a single person so that the child can enjoy the guidance and companionship of both parents.

The study emphasizes the fact that the principles which underly the adoption process today are by no means absolute and opinion on various aspects of adoption technique remains divided. For example, controversy exists as to whether people who have children of their own should be allowed to adopt legally. In many countries it is felt that the presence of natural children might constitute a threat to the emotional security of the adoptive child. These differences of opinion, however, do not affect the basic assumption that the interests of each individual child must be the primary consideration.

This study represents a very valuable contribution to the growing body of knowledge, both theoretical and practical, which forms the basis of present-day child care. It is of especial value to Northern Rhodesia and, indeed, to Southern Africa as a whole, where inadequate facilities prevent the fullest use being made of the adoption process. Works such as the one under review serve the very useful purpose of keeping even the most ' backward ' countries constantly in touch with modern trends.

JANET LONGTON.

Ethnographic Survey of Africa

A. H. J. PRINS, *The Coastal Tribes of the North-Eastern Bantu* (*Pokomo, Nyika, Teita*), East Central Africa, Part III, 1952.

AUDREY BUTT, *The Nilotes of the Anglo-Egyptian Sudan and Uganda*, East Central Africa, Part IV, 1952.

JOHN MIDDLETON, *The Kikuyu and Kamba of Kenya*, East Central Africa, Part V, 1953.

G. W. B. HUNTINGFORD, *The Southern Nilo-Hamites*, East Central Africa, Part VI, 1953.

PAMELA and P. H. GULLIVER, *The Central Nilo-Hamites*, East Central Africa, Part VII, 1953.

G. W. B. HUNTINGFORD, *The Northern Nilo-Hamites*, East Central Africa, Part VIII, 1953.

P. T. W. BAXTER and AUDREY BUTT, *The Azande and Related Peoples of the Anglo-Egyptian Sudan and Belgian Congo*, East Central Africa, Part IX, 1953.

PARADOXICALLY the Ethnographic Survey Series sponsored by the International African Institute will demonstrate their usefulness by becoming useless. The Director of the International African Institute points out, in his preface to these publications, that the aim of the Ethnographic survey is ' to present a concise, critical and accurate account of our present knowledge of the tribal groupings, distribution, physical environment, social conditions, political and economic structure, religious beliefs and cult practices, technology and art of the African peoples '. He also warns that ' since

the unequal value and generally unsystematic nature of the available information constituted a chief reason for undertaking this Survey, it will be obvious that the material presented can make no claim to be complete or definitive'. It follows from this that these surveys ought to show up the deficiencies in our knowledge both in depth and extent, of the peoples of Africa. This, we hope, will stimulate additional research which in turn will render the Surveys out of date. The Surveys could achieve no better purpose.

That there are still considerable lacunae in our knowledge is demonstrated very clearly in these seven volumes. Except for the Nilotes of Anglo-Egyptian Sudan, Central Nilo-Hamites and the Southern Nilo-Hamites where there has been substantial fieldwork recently, most of the main sources of information refer to works published before 1939. In fact the volume on *The Central Nilo-Hamites* has clearly benefited considerably from Gulliver's own unpublished material, and *The Coastal Tribes of the North-Eastern Bantu* from Prins's, and the *Southern Nilo-Hamites* from Huntingford's. There is a danger, however, in spite of the warning in the preface, that uncritical readers might take the descriptions of certain aspects of culture culled from very early accounts as representing the modern situation. Middleton, for example, had to rely on pre-war accounts for his material, particularly for the Akamba.

A welcome innovation in five of these surveys is a comprehensive index: the lack of an index was one of the weak points about the earlier surveys. *The Nilotes of the Anglo-Egyptian Sudan* published in 1952 has no index and *The Coastal Tribes of the North-Eastern Bantu*, also published in 1952, has an index of tribes with subheadings under each tribe for the main topics of interest. I found the annotated bibliographies in the surveys prepared by Huntingford and Middleton a great improvement over the bald list of publications usually listed in the bibliographies. Since in the long run the bibliographies are likely to be the most valuable part of these surveys and since the material must have been perused it is a great pity that Tew's early example in the survey (East Central Africa: Part I. *Peoples of the Lake Nyasa Region* (1950)) of annotated bibliographies was not followed. Even Sheddick's broad classification of works is more useful than a straight alphabetical listing (Southern Africa: Part II. *The Southern Sotho* (1953)).

Readers in the Federation, because of the emergency in Kenya, are most likely to take up Middleton's account of the Kikuyu and Akamba before any of the others. But if they expect to find an easy explanation of Mau-mau in this account they will be disappointed. Middleton has wisely skirted the question and has not listed 'literally hundreds of references to modern Kikuyu history in other sources' mainly in writings of writers 'concerned chiefly with modern political problems'. But for those with eyes to see the background is set out clearly enough in the body of the text.

J. CLYDE MITCHELL.

M. McCulloch, *Peoples of Sierra Leone Protectorate.*

Since this book is one of a series it must of necessity suffer from the advantages and disadvantages of the plan behind the series. It does provide a mass of material in a handy, if albeit, a rather indigestible form, which is most valuable to those who are going to work in the area. From this point of view, however, an index would be of great help.

One of the aims of this series of studies is to show the present state of knowledge, and it is therefore to be expected that there will be gaps in the material presented. However, this particular survey suffers from the disability that it deals not with an ethnic group but with a politically defined area in which a number of ethnic groups meet, many of whose members live in the surrounding countries of French Guinea and Liberia. In consequence all the relevant material has not been available for presentation, and the gaps appear larger than is perhaps the case. This is particularly evident in some of the groups, such as the Korankos, and the Susus. The study has been further limited by omitting any mention of the Colony and the Creole people. Although the Creoles are not an ethnic group and therefore not eligible for inclusion in the study, the effects of the Creole culture upon the peoples of the Protectorate have been so profound that some mention is warranted. For instance the Creole language is far more the lingua franca of the Protectorate than Mandinka ; and such references as that on page 29 to the change in the status of women caused by the introduction of a cash economy, need some description of the position of Creole women, since this fact has undoubtedly been of great importance in the development of the position of the trading woman in the Protectorate.

Another factor which has not been given sufficient weight is the importance of Islam in the country and in particular the relationship of Islam and various of the secret societies. The Muslim tribes have an initiation ceremony for boys which centres upon circumcision in a secluded bush. This normally takes place around the time of puberty. Islam is strongly opposed to the Poro Society where circumcision precedes and does not take place within the ceremonies of initiation. The Muslim Northern Temnes do not belong to Poro, but the non-Muslim Yonni Temnes are active members of the society. On the other hand the non-Muslim Lokko, which are wrongly placed here with the Mendes as supporters of Poro, have in fact been more directly influenced by the Muslim peoples around them and initiate their lads at puberty into a Mahalabwa Society in a ceremony including circumcision in a secluded bush. On the other hand Islam is not opposed to the Bundu and Sande societies, which also flourish in the Muslim areas of the country. There is, however, a variety of this society known as the Sunna society, which has a much less elaborate initiation

ceremony, and which is common amongst the Muslim Creoles and the Susus who have been largely influenced by them. No mention is made of the Ugugu Society, a society brought up by the Yorubas and spread by the Muslim Creoles to Temne and Sherbro areas adjacent to the colony. Here it has a considerable following and is often of political significance, and is held in greater respect than Poro in these areas.

E. M. R.

Social and Economic Studies (Journal of the West Indian Institute of Social and Economic Research).

THE first issue of this journal, published by the West Indian Institute of Social and Economic Research, appeared in February 1953. The Institute itself was established in 1949. In common with the East African Institute of Social and Economic Research, established shortly before, and the West African Institute established afterwards, the West Indian Institute is integrated with a University College—in this case the University College of the West Indies.

The journal bears testimony to the amount of solid research work being done in the West Indies. The Director of the Institute, Dr. H. D. Huggins, is an economist and it is natural perhaps that the emphasis is more on economic topics than sociological. Thus in the first ten issues, seventeen out of thirty articles deal primarily with economic topics, six with sociological topics, two with demographic and two with social anthropological topics, two with problems of political science and one with a problem of social history.

While the problems of each colonial territory differ in detail from those of the others, there is a set of general economic and social problems common to them all. The essays published in *Social and Economic Studies*, although dealing in the main with problems local to the West Indies, often have a familiar ring to the reader in British African territories. There is much to be learnt from these studies of similar problems elsewhere. To the sociologist in particular I would recommend Lloyd Braithwaite's analysis of social stratification in Trinidad (Vol. II, nos. 2 and 3), pp. 5–175.

J. C. M.

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